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OUR TENDENCY TO FADS*

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This is neither the place nor the time to enlarge on the fact that the American people have a distinct tendency toward indulgence in fads of all kinds. That the medical profession in its own field of activities has shown the same inclination can easily be proved by a retrospect into recent medical history. I do not mean to suggest that Americans in general, and American physicians in particular, are possessed of that peculiar tendency to a very much larger degree than people abroad; but with us the tendency I refer to manifests itself in a somewhat different manner. Our fads show a very short life and a continuous change. Also, we are strongly inclined to cultivate certain fads just about when they begin to be discarded by Europeans. A fad is not necessarily a thing without any value as is evident from a definition taken from the dictionary: "A trivial fancy adopted and pursued for a time with irrational zeal; a matter of no importance, or an important matter imperfectly understood taken up and urged with more zeal than sense; a whim; a crotchet; a temporary hobby."

To mention just a few of the more noteworthy fads relating to medicine in general in recent times, I might cite the treatment of senile prostatic hypertrophy by orchidectomy which was practiced about eighteen years ago with a great deal more zeal than reason, and was quickly abandoned when it was found that almost disastrous constitutional effects followed the operation. Not long after that the so-called Bottini-Freudenberg operation for the same purpose, consisting in the galvanic cauterization of the enlarged organ through the bladder, made a great deal more noise than it deserved, and after a short and harmful career has been utterly abandoned. There was a time when ovaries were sacrificed to an extent amounting to a fad. The same criticism might perhaps without much injustice be made to-day as to appendectomy. A few in this audience may perhaps recollect that short-lived fad of nerve stretching in cases of tabes or may still have in mind the time when galvanocautery of the turbinated bodies in the nose was practiced for the relief of hay-fever, chronic rhinitis and almost any pathologic state in the nostrils with a great deal of vigor and very little rationality. The injections of paraffin for the relief of cosmetic defects may also be classed among the short-lived fads. The irreparable harm which this practice has often done has led to its utter abandonment except in rare instances. I may not be competent to speak about matters outside of our own special domain, but my impression is that the extent to which Freud's psychanalysis has been exploited in neurologic literature of late borders on faddism.

Coming to matters of more personal interest to us, I might remind you of the almost unprecedented enthusiasm with which Roentgen rays were used and abused soon after their therapeutic value was first brought to our notice, twelve or thirteen years ago. It was a veritable fad to employ them in all kinds of conditions, often without even a correct diagnosis being made. It took a great many and costly lessons to narrow down the field of their usefulness and to modify the technic of their application to a plane of safety. No one can appreciate the remarkable therapeutic efficiency of Roentgen-ray treatment in many dermal conditions more than I do, but my brief criticism in this connection is directed against its misuse in inexperienced and untrustworthy hands.

The treatment of syphilis in recent times also has furnished some occasion for the pursuit of faddism. I have often had to smile at the peculiar activity and zeal with which about ten years ago mercurial inunctions were taken up in this country as if that method were something entirely new. This form of treatment, hundreds of years old, had formerly been practiced in this country only in certain resorts. The profession in general and even so-called specialists in the treatment of syphilis seemed to consider the method so cumbersome, unpractical and unclean that they seldom made use of it, being seemingly contented with the continuous administration in season and out of season of the infallible pills of protiodid of mercury. When European physicians had almost discarded inunctions in favor of injections of mercury we could here see it being taken up as a fad as if it were the latest word in the treatment of syphilis. Do not misunderstand me. I am ready to subscribe to the unquestioned value of this method, which has stood the test of time; I merely point out the peculiar faddism which gave it a short-lived popularity here.

In a similar way we could observe several years ago the short-lived practice of intravenous injections of bichlorid of mercury of which to-day we hear so little. Coming to present-day history I should certainly not be willing to criticize the enthusiastic reception which Ehrlich's great discovery received everywhere. But in this connection I feel like severely criticizing a certain phase of the most modern treatment of lues, I mean the exposure by surgery of the vein into which the salvarsan solution is to be injected. I consider this a perfectly useless and inexcusable procedure amounting to a fad. If we consider that many cases of syphilis require repeated injections of salvarsan or neosalvarsan, if we

* Chairman's Address before the Section on Dermatology of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

furthermore remember the frequent necessity of entering the veins in the same anatomic neighborhood for the purpose of serodiagnostic tests, we can easily appreciate the great injury to which those poor veins are subjected. Nor should we forget that a patient who has been subjected to that style of injection is forever stigmatized.

In former times I could make the almost daily observation that physicians in general and even specialists were very slow in adopting any form of treatment which required the regular use of a hypodermic syringe. That applied, of course, particularly to the treatment of syphilis. All this has changed wonderfully of late when almost anything is being treated by the injection of all sorts of serums and the so-called vaccines or bacterins. I feel perfectly incompetent to discuss that subject in general from its many points of view. I realize its great possibilities and its scientific fundaments, but when we see that vaccines are recommended and used for the treatment of vertigo, hay-fever, rheumatism and sciatica, of appendicitis and gall-stones, we are forced to regard such practices as fads. Regarding purely cutaneous affections, their use in sycosis and furunculosis is to-day pretty well established, although we are far from possessing sufficiently exact data as to dosage and frequency of injections. I can only look with mild incredulity on the reports of the cure of pruritus ani by autogenous vaccines. I should require better proof for the microbic origin of that condition before I can accept those statements.

Of most interest to dermatologists is without any doubt the use of vaccines in the treatment of acne on account of the frequency of this disease in our practice. It is now several years since autogenous vaccines were first introduced in the treatment of this condition under the influence of Wright's epoch-making researches concerning the so-called opsonins. Since then we have gone through a series of developments. Enterprising pharmaceutical houses have done their share in complicating the matter, not to say making our lives miserable. Barely have we had a chance to make observations on the value or lack of value of their stock vaccine supposed to contain the dead acne bacillus when they suggest the necessity of using a polyvalent or mixed vaccine containing as many as five different organisms, a veritable shotgun mixture, not to say "ragout," which in itself constitutes an implied admission of weakness of this form of treatment. Leaving entirely out of the discussion the question whether or not the acne bacillus is really the cause, or at least the chief cause, of acne, a matter which is by no means universally acknowledged or proved at all, the fact remains that extensive observations will force on us the conviction that these injections have very little, or at best only temporary, effect in most cases of acne. This applies at any rate to the stock vaccines in the market. Whether or not the use of autogenous vaccines, which means dependence on a reliable bacteriologic laboratory, will ever become popular remains to be seen.

If I mention in this connection the so-called Phylacogens which have been urged on our attention during the last year by an overzealous drug house I do so merely to warn others against their use. I know only by hearsay that in rheumatism and other general infections they have occasionally been used with disastrous results, but I do know from my own experience in a few instances that the use of the special acne Phylacogen, which so far has been only experimentally tried, was followed in each case by such disagreeable, not to say alarming coeffects, that I would under no circumstances be willing ever to use them again. It is a source of comfort to know that THE JOURNAL of the American Medical Association has proved itself in this instance, as in many others before, a veritable areopagus, or in plain English, a faithful watchdog. Its severe criticisms of Phylacogens are praiseworthy. Its recent articles on vaccine treatment are a splendid guide to the novice.

Not only in regard to therapeutics do we find a tendency to fads. We can observe a similar tendency in regard to broad pathologic and diagnostic questions. There was a period in dermatology when an attempt was made to explain most skin diseases of unknown etiology on the basis of trophoneurotic influences. That was at the time before bacteriology had become established in its varied etiologic relations. More recently the subject of anaphylaxis has been forced into the foreground and is being discussed to an extent and used to explain the cause of disease in a manner which classes it among the fads.

One of the greatest accomplishments of modern serologic studies is the so-called Wassermann test. Its value is absolutely established as one of the most important diagnostic features in syphilis; but when we see that in any case of a non-specific skin disease the diagnosis of which offers no difficulty whatever, in eczema, psoriasis, lichen planus, in keratosis palmaris, lupus erythematosus, or what not, a Wassermann test is undertaken as a sort of diagnostic pons asinorum, we are forced to think that that excellent method is being abused or made a fad of.

We are living in a period to-day when the pathologic laboratory has become indispensable to us in our daily work, but we should not use it for the pursuit of fads; we should not forget that after all the laboratory should be our aid, our assistant, not to say our servant, and not our master. Clinical knowledge is in danger of becoming neglected in favor of laboratory methods. The two must work together if we are to perform our work successfully.

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NEPHRITIS

ITS TREATMENT WITH THYROID AS A PRELIMINARY TO OPERATION *

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Last year I published[1] my experiences with large doses of desiccated thyroid gland in the treatment of the usual form of nephritis. I now record my further experience with this agent, and urge its use in the treatment of nephritis as a preliminary to surgical treatment which may be necessary in such cases.

It is unnecessary, I am sure, to insist that the thyroid gland, even if given in large doses to those suffering from nephritis, will not remove the symptoms in the cases in which the disease is secondary to advanced heart or liver changes. This can also be said to be true when the symptoms of the nephritis are due to infections of the genito-urinary tract, especially tuberculosis, nephrolithiasis, an ascending infection due to an infected bladder coincident to an obstructing prostate gland, or a

* Read in the Section on Surgery of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

1. Percy, J. F.: Thyroid Extract in Nephritis, THE JOURNAL A. M. A., Nov. 9, 1912, p. 1708.

surgical kidney. These are also without the pale of favorable consideration of this treatment. It is difficult to state, at this writing, where the destructive limits of nephritis cease to be favorably influenced by the thyroid treatment. With an increasing number of personal observations, and reports from the profession giving their experience in a large number of cases, its place should be determined within a reasonable time. It requires no stretch of the imagination to recognize, however, that this treatment will not overcome the symptoms incident to a comparatively complete disorganization of the tissues of both kidneys. On the other hand, I believe that I shall be able to show in subsequent reports that the thyroid gland, when given even in the last stages of true nephritis, as a clinical fact does divert the metabolic processes of nutrition, especially with reference to proteins, to a degree sufficient to compensate, for a length of time not yet determined, for the failure of the physiologic function of the kidney.

I have not had a sufficient number of cases to determine the value, if any, of the thyroid-gland treatment when nephritis exists as a complication of diabetes mellitus. But I believe, from the results so far obtained in three cases of this not infrequent complication of nephritis, that it is worthy of more than a mere trial.

Fortunately, or unfortunately, the majority of the cases of nephritis which I have treated, especially since the publication of my former paper, have been advanced cases. My conception of this disease in the average case is as follows: Cardiovascular changes with a blood-pressure above 150 mm. of mercury. The average blood-pressure can be placed at 200 mm. of mercury. With this, there are present albuminuria and degenerative casts, coarse and fine granular, blood, fatty, hyaline and waxy. The albumin frequently is found to represent 7 gm. to the liter.[2] In one case, that of a physician, the amount was 14 gm. This urine would practically become instantly solid on heating. In addition to this, there is more or less of a localized, and, in many cases, a generalized edema. I think I can state, therefore, without fear of contradiction, that these patients were really suffering from chronic nephritis.

In the majority of the cases I have so far treated, alterations in the optic nerve and retina have been quite common. In passing, I may be allowed the statement that the thyroid gland will probably prove to be the most effective means so far discovered to arrest these destructive changes in the fundus of the eye. It is not necessary, I am sure, in order to complete the generic picture of this distressing malady, to describe the physical exhaustion and utter weariness of mind which accompanies its miserable progress.

In my former paper, I described this treatment from the point of view of the internist. Now I want to call your attention to its probable value as a preparatory treatment when a surgical operation is necessary in those suffering from nephritis. Correct preparatory treatment for those suffering from diabetes mellitus frequently carries them through their operative procedure with success. Thyroid extract as a preliminary treatment in nephritis, when surgery is a prospect, will also be found to have a large place as the following two cases illustrate:

CASE 1.—Mr. C., aged 69, farmer, always well until two years ago, when he noticed a swelling in left inguinal region. This has gradually grown larger until the discomfort is annoying. Also noticed in the last year, that he was getting short of breath on exertion. The symptom, however, that alarmed him was puffiness of the legs, hands and face. He attributed all his symptoms to the gradually enlarging direct inguinal hernia, and asked for operative relief.

A physical examination showed, in addition to his hernia, a moderate generalized edema with considerable fluid in the abdomen. There was presystolic murmur at apex of heart; heart hypertrophied; apex beat in seventh interspace and outside nipple line. Hemoglobin was 60 per cent. (Dare); blood-pressure 170 systolic, 120 diastolic; weight, 157 pounds; temperature, 98.2 F. The urine: total quantity in twenty-four hours 22 ounces; specific gravity, 1.010; albumin, 4 gm. to liter (Esbach); many granular and hyaline casts. This was Aug. 24, 1912. Admitted to St. Mary's Hospital and put to bed. Desiccated thyroid gland, 2 grains six times in twenty-four hours, and Blaud's mass 5 grains three times a day, were administered. Aug. 30, 1912, total quantity of urine 30 ounces; specific gravity 1.020; albumin 3 gm. to liter (Esbach); fewer granular and hyaline casts, but many are still present. Sept. 7, 1912, total quantity, 35 ounces; albumin, 1.5 gm. to liter; occasional granular casts. Sept. 14, 1912, specific gravity, 1.020; albumin, 1 gm. to liter (Esbach); no granular or hyaline casts in centrifuged specimen; a few pus cells. Edema remains the same. Dried thyroid gland tablets (2 grains) increased to ten a day. After a week's treatment by the larger dose, the edema gradually disappeared, as did also the albumin. Treatment continued another week without the reappearance of the cells, albumin or edema.

At this time, a repair of the hernia was made under ether anesthesia. The thyroid-gland treatment was readministered (six tablets in twenty-four hours) at the beginning of forty-eight hours following the operation. The final examination of urine was made at this time. The total quantity for the twenty-four hours was 23 ounces; specific gravity, 1.020; albumin, 1 gm. to the liter; a few hyaline and granular casts in a 1/6 field. Patient was in good condition. At the end of the first week following the operation, the urine contained no albumin or casts, and the patient left his bed at the end of three weeks cured of his hernia and his nephritis, and has remained well until the present time (May 24, 1913).

CASE 2.—J. W. A., aged 54, American, railroad contractor, was referred to me with a diagnosis of interstitial nephritis, the symptoms of which had been present for over one year. The patient had had typhoid fever when a young man; malarial fever; bilious remittent fever; left inguinal abscess the previous fall, cause unknown. Knocked from railroad-bridge eight years ago, in bed one week, did not work for one month, says he was hurt inwardly and at base of skull. Was a heavy drinker of whisky and beer twenty years ago, since then only occasionally.

Four months previously he noticed that he had to get up three or four times at night to urinate. Has an impression that he passes too much urine. Last three months complained of shortness of breath on ordinary exertion. Is alarmed because of gradually increasing swelling of both legs below the knees, which has come on within last three weeks. Complains of general weakness, although his appetite is good. Looks sick, but insists that his general health is good. He is convinced that all his trouble is due to a hernia which developed shortly after his fall from the bridge. Has always worn truss with comparative comfort; states that his hernia now interfered with his getting about on his railroad constructive work, and wants it cured.

Examination, March 2, 1912, revealed a well-built man normally of good physique. Temperature, 3 p. m., 98.2 F.; hemoglobin, 65 per cent. (Dare); weight, 179½ pounds; blood-pressure, systolic 190 mm., diastolic 150 mm.; lungs and abdomen negative except for a rather large left inguinal hernia; scar of previous abscess in left groin about midline of Poupart's ligament. Heart: apex beat diffuse and muffled and 1 inch outside of nipple line. Soft edema of both legs below knees.

2. Through an unwarranted error in my laboratory, the quantitative estimation of the albumin in the two cases recorded in my previous paper were incorrectly stated. In that article, whenever the percentage of albumin is given, it should be changed to read "grams" per liter (Esbach) instead of per cent.

Urine: total quantity in twenty-four hours was 20 ounces; specific gravity, 1.010; total solids 340 grains; albumin, 4 gm. to liter (Esbach); many granular and hyaline casts.

Patient put to bed in his home, instructed not to eat red meats, otherwise usual diet. Six 2-grain tablets desiccated thyroid given a day for first week. At end of week, urine had increased to 40 ounces in twenty-four hours; specific gravity, 1.020; total solids in twenty-four hours, 600 grains; fewer granular casts and no hyaline casts were found in centrifuged specimen.

It is unnecessary to burden this article with a detail of the urinary examinations, which covered a period from March 2 to May 12, 1912. It is sufficient to say that this patient's urine was found to be normal when examined April 28, 1912. The experience gained in the previous case of nephritis complicated also with a hernia, made it seem justifiable to operate on this man's hernia. The operation was performed May 16, 1912, at St. Mary's Hospital, by the Bassini-Andrews method. The first forty-eight hours a limited quantity of water was given. The urine examined at the end of this period contained 1 gm. of albumin to the liter, and a few granular and hyaline casts. The dried thyroid gland was again administered, six tablets (2 grains) in the twenty-four hours. In one week the urine was normal, and the convalescence was uninterrupted. The urine of this patient was examined May 12, 1913, one year after his surgical operation, and found to be normal. The patient is in excellent health, and has resumed his work as a railroad contractor.

Before describing the method that I have followed in the dried thyroid gland in nephritis, I wish to present another case that at least offers additional possibilities for the use of this substance. I refer to non-obstructive postoperative suppression of urine.

Case 3.—Mrs. J., aged 43, the mother of four children, gave a history of renal calculus extending over a period of three years. Aside from the ordinary and common pelvic pathology incident to child-bearing, and the history of renal calculus, this woman's history is negative. Roentgenoscopy showed a ureteral calculus near the bladder. High palpation through the vaginal fornix touched a small, hard mass which not only caused considerable pain, but started irritative symptoms in the bladder. This was undoubtedly the same foreign substance shown in the roentgenogram. Under ether anesthesia, in the Galesburg Hospital, Aug. 19, 1910, the ureter was opened and the stone removed through an extraperitoneal incision just inside the left iliac bone; small cigarette drain. The calculus was ¼ inch long and ⅛ inch in diameter, and had produced a condition of hydro-ureter. The proximal part of the tube was not over half an inch in diameter. The patient reacted well from the operation, and with the exception of a rather rapid pulse (from 100 to 120), which was attributed to her chronic, but mild, neurasthenia, seemed to be progressing favorably. At the end of forty-eight hours the nurse reported that no urine had passed, and also that there was no bladder distress. The woman was catheterized, and only half an ounce of urine was obtained. Unfortunately, this specimen was not examined. The usual treatment, namely, plenty of water both by mouth and enteroclysis, together with hot packs, free catharsis, strychnin, digitalis and nitroglycerin, was followed for the next thirty-six hours without results, as far as obtaining urine by catheter was concerned. At this time, two 2-grain desiccated thyroid tablets were given every three hours, and all other treatment stopped. No urine having been voided in twelve hours, the catheter was again inserted, and 2 ounces of urine obtained. The specific gravity of this specimen was 1.008, albumin sufficient to make the specimen opaque by the potassium-mercuric iodid test, no sugar or casts, but rather numerous blood-cells. In twelve hours the catheter was again inserted, and 4 ounces of urine obtained. It was of the same general chemical type as that obtained the previous twelve hours. Treatment by dried thyroid gland was continued. Eight hours following the last use of the catheter, the patient passed voluntarily 20 ounces of urine, the specific gravity of which was 1.025, and normal, except for a slight amount of albumin and a few blood-cells. The following twenty-four hours, 50 ounces of normal urine were voided.

We shall all agree that one case cannot have much significance; and yet the history and treatment, as outlined herein, must impress you, as it did me, that the results in this case will justify the further use, in similar cases, of the thyroid gland until its true value can be determined after a trial in a larger number of cases. It is my rule now, and I would earnestly recommend to others to give a 2-grain tablet of the dried thyroid gland six times in the twenty-four hours, for two days, in all cases in which the genito-urinary tract is to be attacked by the knife. My reason for this is not alone the results that I have seen from the use of this gland in nephritis as it ordinarily occurs, but especially its remarkable efficiency in clearing up the albuminuria of pregnancy, to which I also referred in my first paper. These experiences have impressed me to such a degree that I am willing to assert that clinically, at least, the desiccated thyroid gland is indicated in all forms of existing, or threatened, urinary pathology that do not come within the list of exceptions which I have already indicated in the first part of this paper.

METHOD OF ADMINISTRATION

In an editorial[3] in The Journal there is the following caution as to the giving of the thyroid extract in this disease: "If the treatment is determined on, we suggest the use of small doses cautiously increased." Justifiable as is this warning in reference to any new treatment that may have in it possibilities for harm, unfortunately, it has in this instance been the means of destroying the value of the treatment as followed by many practitioners. Small doses, that is, 2 grains of the dried gland every four hours, are absolutely ineffective, and have no apparent effect in arresting the progress of the disease. My own rule is to give six tablets a day for the first week, each tablet representing 2 grains of the dried thyroid-gland substance. If the total quantity of urine is collected each twenty-four hours after the thyroid-gland treatment is commenced, it will be noted that the abnormal characteristics of the urine previous to the treatment are greatly intensified. Not only is the quantity in the twenty-four hours lessened, but there is a marked increase in both the number of casts and in the quantity of albumin; with this, the patient's physical symptoms in many cases, but not in all, are intensified. This disturbance lasts, in those subject to it, not over three days. The elimination of casts and albumin then begins to decrease, and the patient shows physical improvement in a ratio commensurate with the change for the better in his urinary findings. At the end of the first week, my rule is to increase the number of tablets (2 grains) to 10 a day. This quantity of the drug, when combined with absolute rest in bed, constitutes the routine in the average case.

The fear of hyperthyroidism is almost groundless while the urine contains casts and albumin. When persisted in after these elements have disappeared, in a few cases I have had a mild hyperthyroidism develop, which disappeared in a week, when thyroid was discontinued.[4]

3. Thyroid Extract in Bright's Disease, editorial The Journal A. M. A., Nov. 9, 1912, p. 1725.

4. Since the publication of my first paper, I have received reports from three colleagues who each had a case of severe nephritis, in their practice, which disappeared spontaneously on the onset of an exophthalmic goiter. Interesting enough, these practitioners made note of the fact, but attached no particular significance to it. The three patients were adults, two women and one man.

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After the urine becomes normal, I reduce the number of tablets to four or six a day, and give these three weeks out of each month. Whether this is absolutely necessary, or not, I am not quite prepared to say. Most of my early patients have not continued with the treatment in this way, and have remained well. If the high blood-pressure persists, I follow the thyroid treatment with the persistent use of potassium iodid and nitroglycerin, as mentioned in my previous paper. I do this because, clinically, I am quite certain that it has done my patients, with this condition, much good. I am convinced that the administration of the dried thyroid gland in addition to offering a method of efficient treatment to the internist, offers to the surgeon, as well, a means of benefiting his operative cases when nephritis, mild or severe, is one of his problems.

NECESSITY OF CONSENT TO OPERATIONS

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I. CONSENT OF PATIENT HIMSELF

Express and Implied Consent.—An operation on a patient without the latter's consent is, as a general proposition of law, an aggravated trespass, and an action for assault and battery will lie.[1] Such consent is a question of fact, and it may be found to be expressed or implied. There is no problem for this topic when the consent is expressly given, except that of skill.

Consent Implied in Fact.—The determination of implied consent creates the difficulties. It is held that such consent is properly deducible from such facts as submitting to, preparing for, and following out the directions of the surgeon preparatory to an operation.[2] This is consent implied in fact, and arises from surrounding circumstances and conduct. Thus, take the case in which the plaintiff instructed the surgeon to remove neither ovary, if both were found to be diseased; the surgeon replied, "You must leave that to me." During the operation he removed both ovaries, but the court held that the jury were properly instructed to find for the defendant on the ground that there was a tacit consent by a failure to disapprove the answer.[3]

Consent Implied by Law.—But the question of implied consent is not always determined by the acts of the plaintiff. Dicta in the cases lay down the proposition that the law will presume, imply, or furnish consent in cases of emergency work. "If a person should be injured to the extent of rendering him unconscious, and his injuries were of such a nature as to require prompt surgical attention, a physician called to attend him would be justified in applying such medical or surgical treatment as might reasonably be necessary for the preservation of his life, or limb, and consent on the part of the injured person would be implied.[4] The implication of consent in such cases is of course fictitious, and scarcely necessary save to satisfy the lover of legal fictions. But in no reported case have the facts permitted this proposition to be applied. In the two cases from which the dicta are quoted, the emergency feature did not arise. Physicians and surgeons, however, proceed on this theory in their emergency practice and undoubtedly will continue to do so in the interests of humanity. There must be many such cases in large cities, and it is noteworthy that none have found their way into the books.

Conditions not Anticipated.—Next, distinguish this emergency work *ab initio* from the case in which the surgeon while operating *with* the consent of the patient discovers conditions not anticipated. These may be of two sorts: first, a different or additional operation may be the correct surgical practice, but there is no necessity, although it is advisable, that this be done at once; second, a different or additional operation may be immediately necessary to save the patient. Concerning the first proposition, there is a case directly in point. In Mohr *vs.* Williams,[5] the defendant examined the right ear of the plaintiff, but not the left ear (the latter being filled with foreign substances), and advised an operation on the right ear. The plaintiff consented. When she was under the anesthetic, the defendant examined her left ear, and found that to be in a more serious condition than the right ear. The defendant called this fact to the attention of the plaintiff's family physician who was present at the plaintiff's request. No objection being made by him, the defendant operated on the left ear instead of the right. The operation was skilful. Evidence was conflicting as to its value as a cure for plaintiff's trouble. Plaintiff held that an action lay for assault and battery. The jury found that there was no implied in fact consent on the part of the plaintiff for the performance of this different operation on the left ear.[6]

The law would not furnish the defendant with its consent. To quote the court: "The diseased condition of the plaintiff's left ear was not discovered in the course of an operation on the right."[7] Clearly, then, a surgeon may not perform an operation other than that to which consent has been given unless, perhaps, appalling necessity intervenes. As to the latter possibility the opinion suggests some latitude but the terms are general. It is difficult to ascertain whether or not the surgeon would have acted within the scope of his consent had he operated on the left ear, and then removed the ear-drum, assuming this to be the correct surgical practice. Again, it is a question whether or not consent to the removal of the ovaries includes consent to the removal of the uterus.[8] True, these are largely questions of fact, but what verdict is the jury justified in making?

Generally, consent may not be implied on the ground of correct surgical practice.[9] The same opinion that utters that proposition states this: "When the patient desires or consents that an operation be performed and unexpected conditions develop or are discovered in the course of the operation, it is the duty of the surgeon, in dealing with these conditions, to act on his own discretion . . . and in the nature of things he must frequently do this without consultation or conference with anyone, except, perhaps, other members of his profession who are assisting him. . . . In such event, the surgeon may lawfully, and *it is his duty* to, perform such operation as good surgery demands without such consent."[10] (Pratt *vs.* Davis.)[10] Apparently, the law

1. Cooley: "Torts," Student Ed., p. 674.
2. Mohr *vs.* Williams, 95 Minn. 261; 104 N. W. 12, 1905.
3. Beatty *vs.* Cullingworth, 44 Cent. Law Journal 153. So, a patient, feeble, nervous and delirious would take no medicine from anyone but his physician. There were many visits and claim of physician allowed, the court finding implied consent by the semi-conscious man. Succession of Short, 45 La. Ann., 1485, 14 So. 184.
4. Mohr *vs.* Williams, 95 Minn. 261; 104 N. W. 12; Pratt *vs.* Davis, 224 Ill. 300; 76 N. E. 562.
5. 95 Minn. 261; 104 N. W. 12.
6. See 4 Mich. Law Review 49; 5 Mich. Law Review 40.
7. 95 Maine 261, at p. 269.
8. Pratt *vs.* Davis, 224 Ill. 330; 76 N. E. 562.
9. Italics are mine.
10. 224 Ill. 300; 76 N. E. 562.

gives its consent in case the unanticipated conditions require immediate attention, but withholds it in case the emergency feature is not present. The surgeon may not act "on his own discretion," but on the laws of discretion.

Duty to Act.—If a person is delirious and cannot be made to understand the necessity of the treatment proposed, it seems that the physician may cooperate with the patient's immediate family and resort to reasonable force. If, however, the family withhold such consent, there is no obligation on the part of the physician to act. (Littlejohn *vs.* Arbogast.)[11]

II. CONSENT OF THOSE OTHER THAN THE PATIENT

Husband and Wife.—In M'Clallen *vs.* Adams,[12] an early case, the plaintiff surgeon sued in assumpsit for services rendered defendant's wife. The patient suffered a scrofulous humor, and the defendant brought her to the plaintiff, who lived in an adjoining town. After ten weeks, the plaintiff operated on the woman, but she died in a week. The defendant was not notified of the operation until the day before her death. The defense was that the services of the operation were not rendered at the request of the defendant. It was held that the assent of the wife was implied from the fact that she submitted to the operation. Similarly, the defendant's consent thereto was said to be implied. C. J. Shaw in his opinion says:

> "The defendant by placing his wife under the care of the plaintiff, whom he knew, at a distance from his own residence, for medical and surgical treatment, for a dangerous disease, impliedly requested him to do all such acts and adopt such course of treatment and operations as in his judgment would be most likely to effect her ultimate cure and recovery with the assent of the wife, and therefore the operation was within the scope of authority given him."

In State *vs.* Housekeeper,[13] the husband sets up that while he gave his consent to an operation on his wife for tumor of the breast, he withheld it if the trouble was cancer. The operation was performed and the patient died. The diagnosis was cancer. It was proved that the woman consented to the operation and that there was no misrepresentation. The court held that the husband's consent was unnecessary. "Surely the law does not authorize the husband to say to his wife, you shall die of the cancer; you cannot be cured, and a surgical operation affording only temporary relief, will result in useless expense."[14]

In Pratt *vs.* Davis,[15] the patient, an epileptic, clearly did not consent to the removal of her ovaries and uterus. The defendant surgeon, owing to a fear of alarming the patient, had purposely withheld from her the information of her condition and the nature of the operation. With reference to the husband, it appears that he consented to the first operation, after which the patient returned home, but did not improve. Then the surgeon advised the husband to send the patient back for "finishing work." No explanation was made as to what this would be. The ovaries and uterus were removed. The jury found that the husband had clearly not consented to the second operation and the court held that none could be implied from his consent to the first operation.

The early Massachusetts case, by implying the husband's consent, implies that his consent was necessary. But even then, such consent was found after no little stretching of facts. The later Connecticut case stands for the proposition pure and simple that the wife is the keeper of her own body in so far as medical services are concerned and that the husband's approval is unnecessary if the wife has consented. In the Illinois case, a different situation occurs. The wife did not consent. The court would not pass on the question as to whether or not she (an epileptic) was capable of consenting, or whether the husband's consent alone was sufficient. The decision rested on the finding that neither the husband nor wife consented. Assuming the wife possessed no judgment, as in the case of a lunatic, possibly her husband's consent alone would be sufficient.

The consent of husband or wife to an operation on the unconscious spouse should, however, be sufficient to protect the surgeon; provided, of course, that it is necessary and that the parties act in good faith. Necessarily the wife need not submit to an operation if she is *compos mentis*, although so ordered by the husband.[16]

Under the statutes[17] whereby the expenses of the family, which include medical services, shall be chargeable on the property of both husband and wife, the court should permit a recovery against the husband or wife for such services regardless of the consent, or refusal to consent to the services rendered, if the patient consents.

2. *Parent and Child.*—At early common law, the rights of parents concerning their children were jealously regarded. An operation on a child without the consent of the parent would doubtless have been actionable. But modern influences, paternalistic ideas of government and "first-aid-to-the-injured" societies have stepped vigorously on the toes of these parents. The tendency is undoubtedly in this direction: When a child has arrived at a proper age and understanding consent by the child will overcome any attitude of the parent. But prior to that age, "we contend that it is wrong in every sense, except in cases of emergency, for a physician and surgeon to enter on a dangerous operation, or, as in this case, the administration of an anesthetic, conceded to be always accompanied with danger that death may result, without the knowledge and consent of the parent or guardian. It is against public policy and the sacred rights we have in our children that surgeons should take them in charge without our knowledge and send to us a corpse as the first notice or intimation of their relation to the case." Bakker *vs.* Welsh.[18]

In that case, a 17-year-old boy had a tumor in the ear. He went to the city where an aunt and two sisters took him to the defendant, a specialist. A specimen from the ear was taken. On the occasion of the second visit, at least one sister was present, and the specialist advised an operation. The father was not notified before the operation. The boy died under the anesthetic. There was no lack of skill. The father insisted that his consent was necessary but despite the opinion just quoted, the defendants were found not guilty. The case is undoubtedly correct in view of all the circumstances of the age of the patient, the presence of relatives, and possibly a delegation to these relatives by the father of the right to consent. The decision must stand or fall as one views the consent of minors to operations on themselves.[19]

11. 95 Ill. App. 605. See later, "Consent of Relatives."
12. 19 Pick. (Mass.) 333; 31 Am. Dec. 140.
13. 70 Md. 162; 16 Atl. 382. (1888)
14. 70 Md. 169.
15. 224 Ill. 300; 76 N. E. 562. (1906)
16. See paragraph 1.
17. See Hurd, Illinois Revised Statutes (1909), Chap. 68, Sect. 15.
18. 144 Mich. 632; 108 N. W. 94.
19. See 4 Mich. Law Review 49; 5 Mich. Law Review 40.

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3. *Relatives Other Than Husband and Wife or Parent and Child.*—Apparently if the patient is unable to consent for himself, and relatives refuse their consent, the surgeon is liable if he operates.[20] An interesting question for determination is based on the assumption that the relatives (to collect accident insurance) without reason and for a wrongful purpose, refuse to consent to an operation on an unconscious patient, without which the patient will incur irreparable damage. May the surgeon, realizing these facts, proceed and be protected?[21]

SUMMARY

The safest practice is to obtain the consent of the patient. If she be a wife, that is probably sufficient. If the patient is a child, at present, the consent of the parent should be obtained. If the patient cannot consent, every effort should be made to gain the consent of some relative. Carefully explain the scope of the proposed operation to the patient, or if that be clearly inadvisable to the nearest relative. Operate no more than outlined except in dire emergency.

431 South Dearborn Street.

THREE CASES OF AMEBIC DYSENTERY TREATED WITH SALVARSAN

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AND
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Basing deductions on insufficient evidence and forming definite conclusions which take into consideration but few cases is a dangerous tendency which each year is being more widely realized. So many unreported factors may be concerned with so-called cures that until large numbers of observations have been made it is hazardous to attempt a scientific report on a meager number of cases.

We fully appreciate this, and the following case reports would not be presented at this time were it probable that further studies could be made at this post. Other physicians located at places in which amebic dysentery is more common may, however, definitely determine whether or not the very suggestive results herein reported were due to the treatment outlined.

The most interesting case (Case 1) had given a positive (++) Wassermann reaction and it was only when the patient, a non-commissioned officer, had reported a marked cessation in the frequent and painful defecations that a fuller history was sent for and our attention was directed to the possibility of salvarsan being a specific for amebic dysentery.

In our use of this drug, given intravenously, we had previously noted the rather constant and seemingly direct action on the intestines. This was indicated by two or more days of diarrhea following these injections. Men who had been constipated reported loose bowel movements; a few with normally loose movements had constipation after receiving the drug. Whether this action resulted from an increased tension in the blood-vessels due to the addition of 300 or 400 c.c. of fluid, or from some direct action on the intestinal mucosa is, of course, a matter of conjecture.

As a cure for syphilis, salvarsan and neosalvarsan have fallen far short of what we had hoped. What it may accomplish in other diseases is a matter of increasing interest, and with this in mind these three cases are reported:

CASE 1.—F. A. C., aged 33. Jan. 15, 1913: Family history negative and, aside from present report, personal history also negative. Venereal history: June, 1912, chancre; no treatment. Oct. 31, 1912; Wassermann ++; test made as a routine examination, there being no evidence of syphilis. Dec. 3, 1912; neosalvarsan, 0.9 gm. intravenously, followed by one day of painful liquid bowel movements. Since then one formed stool each day. Feb. 7, 1913; neosalvarsan, 0.9 gm. intravenously.

Past history of amebic dysentery: Patient stated that previously to taking this neosalvarsan in December, 1912, he had been having three or four loose, bloody bowel movements each day and two movements at night. These movements contained blood and mucus. When compelled to take long marches, the diarrheal discharges became as numerous as twenty or thirty a day, necessitating his being relieved from such duty.

On closer investigation the following record was obtained from the War Department: Patient was admitted to hospital, Fort McKinley, Philippine Islands, April 1, 1907, with chronic amebic dysentery; remained there for two weeks; then sent immediately on transport *Thomas* to this country. On board of this transport the records show a continuance of this condition. During October, 1907, patient was in hospital for "dysentery, amebic, chronic;" in hospital again in 1909 and 1910 at Fort Porter, N. Y., with chronic dysentery. Since then he states that he gave up all hope of a complete cure of the dysentery and that so long as he was careful in diet and exercise he averaged only five stools a day.

Since receiving the neosalvarsan together with mixed treatment for syphilis he has had one normal movement a day with no blood or mucus present, has gained 21 pounds and can eat the usual sort of foods without bringing on any diarrhea. On May 28, 1913, the Wassermann was still positive (++) after stopping the syphilitic treatment for a month or so.

It should be stated that the history of amebic dysentery in this case was unknown to us as the patient had never been on sick report during our service at this post. The matter was first brought to our attention when the patient reported that his dysentery was cured following the administration of the neosalvarsan, and the previous record of admissions to sick report for dysentery was obtained from the surgeon general's office. The bowel movements have continued normal and amebas cannot be demonstrated.

One interesting feature in this case, which is presented without comment, is that before treatment the man was bald and now he has a rather excellent growth of hair.

CASE 2.—L. P., aged 47, 1913: Family and personal history negative. Denies all symptoms of syphilis and Wassermann reaction negative. Had amebic dysentery in Philippines in 1905 and was sent in from the field to a hospital where he remained for six months taking the ipecac and quinin treatments. Finally sent back to the United States and treated at San Francisco hospital. Was better during winter. Sent back to Philippines much improved in 1908. Dysentery again became so severe that the patient, a soldier, was excused from practically all duties for seven months until return to United States. Says that he had from twelve to twenty-five liquid stools a day, containing blood and mucus. Weight dropped from 174 pounds in 1905 to 130 pounds in 1911. While at Fort Porter, Buffalo, N. Y., suffered so from dysentery that he was considered as unfit for service and was recommended for discharge. The amebas present in the stools were so numerous that he was taken to various hospitals and

20. Littlejohn vs. Arbogast, 95 Ill. App., 605.
21. Another question is whether or not the patient may recover from the relatives for withholding their consent while he was unconscious, the surgeon refusing to act without it.

clinics in Buffalo in order to give students an opportunity for studying *Amoeba histolytica*.

About this time, reports of salvarsan and its wonderful cures were heralded in the daily papers and the soldier, although having a negative Wassermann and no symptoms of syphilis, insisted on being given the treatment. Dr. Herbert A. Smith of the Medical Reserve Corps considered the man so seriously ill and so weakened that he hesitated about giving the treatment. So insistent was this soldier, however, and so slim did the chances for recovery seem that finally 0.6 gm. salvarsan was administered. Improvement in his condition was manifest immediately. Meanwhile his papers recommending discharge had returned and he was ordered to Columbus for final discharge. After a short period of careful examination he was returned to Fort Porter with the statement that no amebic organisms were discoverable and that the man was fully able to continue duty. From December, 1911, till February, 1913, he had only about three movements a day and two at night. His weight increased to 150 pounds. Examinations of stools on Feb. 18, 1913, showed some *Amoeba histolytica*, small amounts of blood and a little mucus. Bowel movements were painful.

The patient was given two intravenous injections of neosalvarsan, each of 0.9 gm., one on February 18 and one ten days later. The movements became formed, no blood present, and the amebas, after the first injection, disappeared. The patient was under observation for about a month after the first injection and during this time repeated examinations showed no reappearance of the ameba.

CASE 3.—A. J., aged 41. Feb. 17, 1913: Present weight 212 pounds. Family and personal history negative except for malaria and typhoid fever. No venereal history obtainable and Wassermann reaction negative.

In 1901 patient had amebic dysentery in Philippines for six months until he was sent back to the United States. During tour of duty in this country was in fairly good condition and had only four or five movements daily. Again went to Philippines in 1904 and dysentery reappeared. Had from eight to ten loose, bloody and painful movements. Returned to United States and was improved by change of climate and diet. In 1908 went back to Philippines and immediately there was a decided recrudescence of the dysentery with from twenty to thirty bloody discharges daily. He was returned to this country and was sent to Fort Porter, Buffalo, N. Y., in 1909. At that time he weighed 160 pounds. This time there was little improvement from change of environment and with diarrheal movements every half hour or so his weight dropped to 130. Amebas, blood and mucus were present in the discharges and he was taken to hospitals for clinical study of the *Amoeba histolytica*.

In March, 1911, he was given salvarsan intramuscularly, although the Wassermann reaction was negative. Having seen advertisements of all manner of cures from this remedy and being in such a weakened condition, he insisted on taking the remedy. Our predecessor at this hospital naturally saw no reason to give this remedy with a negative syphilitic history and Wassermann. The man's condition, moreover, was such as to cause doubt as to his ability to stand the treatment. The patient was determined, however, to have salvarsan and accordingly paid a civilian $50 for one intramuscular injection. In three weeks he began to improve, and had only three or four stools a day. In six months he had begun to regain his former weight and strength.

About a year after this treatment, no other medication having been given, the stools show no amebas, are formed, there is no blood or mucus and his weight is 212 pounds stripped.

It is perfectly evident that these three cases prove nothing. Yet the results have been so striking that it has seemed desirable to make this brief report in order that others with more clinical material may investigate the matter further.

THE ELIMINATION OF THE DIGITALIS BODIES *

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The digitalis bodies show such wide differences in the duration of their action, even after intravenous administration, that one would be inclined to expect similar variations in their rate of elimination. The difficulties attending the quantitative chemical estimation of these bodies have interfered with the investigation of their elimination, and we know almost nothing of their fate in the organism.

Numerous observers have investigated the question of the storage of these glucosids in various organs, and, while I also have considered that phase of the question, the present paper will be limited almost entirely to a discussion of the disappearance of these agents from the circulation. It may be remarked parenthetically, however, that the rat sometimes excretes ouabain almost quantitatively after its subcutaneous injection, and that no one has been able to demonstrate either the fixation or the destruction of notable amounts of any of the digitalis bodies in the mammalian tissues.†

So far as I am aware, very few investigators have sought to determine the rate of disappearance of the digitalis bodies from the circulation of the intact mammal by direct examination of the blood following their intravenous injection.

Polaillon and Carville[1] state that after the subcutaneous injection of strophanthus into the frog it is not eliminated in the urine, saliva or into the intestine, but that it accumulates in the blood.

Cloetta and Fischer[2] injected 5 mg. of a preparation known as digalen into the vein of a dog and found 60 per cent. of it remaining in the blood after an hour and twenty minutes.

Clark[3] injected strophanthin subcutaneously into the grass snake and after sixteen hours found that a very small amount was still present in the blood, but none in the other tissues.

Heuser[4] found a small amount of strophanthin in the blood of the toad an hour and a half after its subcutaneous injection, but his conclusion seems open to some question.

I have intentionally omitted all mention of perfusion experiments from the foregoing brief review of the literature, because I believe that there are essential differences between the disappearance of the digitalis bodies from perfused fluids and from the intact mammalian circulation.

In the present research measured amounts of ouabain or digitoxin were injected intravenously, the animal exsanguinated, the blood defibrinated and the amount of the drug remaining therein determined by injecting into the vein of another animal of the same species

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

† Since the above was written we have found that the liver of the rat removes ouabain (so-called crystalline strophanthin) from the blood-stream with great rapidity. Three mg. of ouabain were injected intravenously into a rat, the animal was killed after a few minutes and the liver was found to contain approximately 1 mg. of ouabain, or one-third of the total amount injected. The cat does not appear to behave toward these bodies in this way.

1. Polaillon and Carville: Arch. d. physiol. norm. et path., 1871-1872, iv, 523 and 680.
2. Cloetta and Fischer: Arch. exper. Path. u. Pharmakol., 1906, liv, 294.
3. Clark: Jour. Pharmacol. and exper. Therap., 1913, iv, 399.
4. Heuser: Arch. internat. d. Pharmakol. et d. Therap., 1902, x, 483.

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enough of the blood to cause death, or, when death did not follow the injection of the blood, by injecting a solution of ouabain slowly until death resulted.

Obviously, when the blood contained none of the poison the animal receiving it required the full fatal dose of ouabain solution to cause death. When the blood contained less than the fatal dose of the poison, the amount present equaled the difference between that required to complete the reaction and that which would have been required had the blood contained none of the poison.

In every case as much as possible of the blood of the first animal was removed, and the proportion of this part to the whole of the blood in the body was calculated on the assumption that the blood constitutes 7 per cent. of the body-weight.[5] Excessive plethora was avoided in the second test animal by withdrawing a portion of its blood before injecting the defibrinated blood which was to be tested for the digitalis body. If large amounts of blood were to be tested, the withdrawals and injections were made in several portions with intervals of about five minutes between the end of an injection and the withdrawal of blood. This is illustrated by the protocol in brief of such an experiment.

PROTOCOL OF AN EXPERIMENT, IN BRIEF

Cat A.—April 20, 1911, weight, 3.3 kg. 4:40 to 4:42 p. m., injected 0.09 mg. ouabain per kg. (total 0.3 mg.)

4:44 p. m., withdrew 150 c.c. blood from carotid artery.

Cat B.—April 20, 1911, weight, 2.92 kg. 5:10 to 5:16 p. m., injected 0.09 mg. ouabain per kg. (total 0.26 mg.)

5:18 p. m., withdrew 100 c.c. blood from carotid artery.

The blood of A and B was defibrinated and treated as follows:

Cat C.—April 20, 1911, weight, 2.65 kg. 5:38 p. m., withdrew 45 c.c. blood from carotid artery.

5:39 to 5:41 p. m., injected 50 c.c. mixed defibrinated blood of A and B.

5:46 p. m., withdrew 40 c.c. blood from carotid artery.

5:50 to 5:55 p. m., injected 75 c.c. mixed defibrinated blood of A and B.

6:00 p. m., withdrew 75 c.c. blood from carotid artery.

6:05 p. m., injected 75 c.c. mixed defibrinated blood of A and B.

6:15 p. m., withdrew 50 c.c. blood from carotid artery.

6:16 p. m., injected 50 c.c. mixed defibrinated blood of A and B.

6:25 p. m., withdrew 50 c.c. blood from carotid artery.

6:30 p. m., began injection of solution of ouabain 1:100,000.

6:55 p. m., toxic symptoms; injection interrupted. (10.5 c.c. per kg.)

7:03 p. m., death, after usual symptoms of ouabain poisoning. Cat received 0.105 mg. ouabain per kg. or 0.005 mg. more than the average fatal dose for a normal animal. This proves that the animal received little or no ouabain in the blood of A and B.

It is not pretended that the method permits of an exact quantitative estimation of the drug remaining in the blood-stream, but the results are approximately correct, except in certain cases which will be discussed. It need hardly be said that experiments were made to show that, when ouabain or digitoxin was added to blood in a vessel and the blood defibrinated, the toxicity of the glucosid was not influenced perceptibly by the procedure.

It was also shown that rat's blood could be injected into the cat's vein without inducing any perceptible effects within the period of observation.

I have used ouabain and digitoxin in these experiments on the cat and dog, and have also used these two agents on the rat, but in these experiments the defibrinated blood of the rat was tested on the cat.

In the first series of experiments small amounts of ouabain were injected into the vein of the cat and the blood was withdrawn simultaneously from the artery. This procedure was due to a mistaken impression that the intact heart did not permit ouabain to pass through it.

Eleven cats, averaging 3.2 kg. in weight, received an average of 0.3 mg. of ouabain, and they yielded an average of 120 c.c. of defibrinated blood. Nine cats were used for testing the ouabain content of these specimens of blood, one cat being used in each of two experiments in which the mixed blood of two cats was tested.

In one experiment 32 per cent. of the injected ouabain was found in the blood; in another 45 per cent., and in seven experiments no positive evidence of the presence of ouabain in the blood was obtained, but it is practically certain that at least traces of ouabain were present.

In the second series of experiments amounts of the drug equal to several times the fatal dose were injected intravenously, and the blood was removed by incising the heart and aorta as soon as possible after the heart had stopped.

Large doses of the digitalis bodies are so quickly fatal that the time allowed for the disappearance of the drug from the circulation was shorter in these experiments than was desired, and, while there were differences in the rate of elimination from the blood-stream, a large proportion of the drug had disappeared from the circulation in every instance.

In two experiments in this series the cat received 5 mg. of digitoxin intravenously In one of these the blood was withdrawn after four minutes, and in the other after five minutes. No digitoxin was found in the defibrinated blood in either case. Another cat received 10 mg. of digitoxin, and the blood withdrawn after five minutes contained less than 3.3 mg. of the drug, and it may have been quite free from it.

Two dogs received a total of 17 mg. of digitoxin by the vein; they were exsanguinated after six minutes, the blood was defibrinated and mixed. The test made on another dog indicated that three-fourths of the digitoxin injected had left the circulation. In one experiment 25 mg. of ouabain—an amount equal to one hundred times the fatal dose—was injected into the vein of a cat. About two-thirds of this colossal dose had disappeared from the blood-stream when the heart stopped, after two minutes and forty seconds. The fact that the rate of disappearance in this case was about the same as that after much smaller doses suggests that the disappearance may be due to physical causes.

White rats, each weighing about 200 gm., were used in the third series of experiments.

In the first experiment the animal received 2 mg. of ouabain intravenously. It died at once and was exsanguinated by incising the heart and aorta. Three cubic centimeters of blood were obtained; this was defibrinated and when it was tested on a cat it was found to contain 0.54 mg. of ouabain, or about one-fourth of the total amount injected. I have no data for estimating the proportion of the whole blood of the rat obtained in this manner.

Another rat received 1.5 mg. of ouabain intravenously. It was exsanguinated after five minutes and the defibrinated blood (2.5 c.c.) was found to be free from the poison.

5. Stewart: Manual of Physiology, ed. 4, p. 51.

The third rat received 6.7 mg. of digitoxin (estimated) intravenously, and the blood was withdrawn after one minute and showed no trace of digitoxin.

These results indicate that ouabain and digitoxin leave the mammalian circulation very rapidly after their intravenous injection, but the rate of disappearance is probably variable.

I am inclined to believe that the digitalis bodies are not fixed in any of the tissues, or destroyed by them, but that they diffuse rapidly into the body fluids and that they are then eliminated from the organism. At any rate, after the subcutaneous injection of ouabain into the rat a large proportion of it may escape destruction and appear in the urine and feces in a few hours.

The ouabain thus excreted into the gastro-intestinal tract is not destroyed there, but when very much larger amounts (100 mg.) are fed to the rat, it disappears almost completely without evidences of absorption during its passage of the alimentary tract.

It would seem, therefore, that the destruction of the ouabain in the alimentary tract is accomplished through the successive actions of ferments or bacteria, and we have no evidence of the destruction of any of the digitalis bodies in the mammalian organism in any other way.

In the absence of any evidence of the rapid destruction or fixation of the digitalis bodies in the organism or their fixation in the urine, their disappearance from the circulation seems to be due to a process of diffusion into the tissue fluids, aside from certain very small amounts which may be fixed in the heart and other organs. Furthermore, it appears that the drug may diffuse back into the circulation, but somewhat more slowly than it leaves it, when the concentration in the blood becomes lower than that in the tissue, as it must through excretion into the urine or feces.

This view finds support in the result of an experiment which may be reported briefly here.

EXPERIMENT 1.—The aorta of an anesthetized cat was compressed and the lower limbs elevated to render them anemic, after which the vena cava was compressed. Twice the fatal vein dose of ouabain was then injected into the aorta below the point of occlusion. The pressure on the aorta was then released for two seconds in order to insure the distribution of the poison throughout the lower limbs, and the compression of the aorta was then maintained for five minutes, after which the circulation was restored.

No symptoms were observed for a period of thirty-five minutes following the restoration of circulation, when convulsions occurred, and death resulted after forty-seven minutes. The interval of twelve minutes between convulsions and death is especially noteworthy in view of the very large dose administered.

A similar dose of ouabain injected intravenously into a normal control animal caused convulsions in six minutes and death one minute later.

One other observation may be mentioned in support of this view concerning the simple diffusion of the drug into the tissues, but it is less striking than the one just related.

EXPERIMENT 2.—A cat weighing 2.55 kg. was given a dose of 25 mg. of ouabain intravenously, an amount equal to one hundred times the fatal vein dose. Death ensued in three minutes; the blood was withdrawn at once, and the liver, weighing 74.2 gm., or about 3 per cent. of the total body-weight of the animal, was found to contain about 4 per cent. of the total amount of ouabain injected.

It is interesting that the wholly insoluble digitoxin leaves the blood-stream at least as rapidly as the very soluble ouabain, just as we have observed that the insoluble drug is absorbed more readily from the gastro-intestinal tract than the more soluble members of the group.

CONCLUSIONS

We have no evidence of the rapid destruction of the fixation of the digitalis bodies in the animal organism.

Certain of the digitalis bodies leave the mammalian circulation very rapidly, but we have no evidence that they are stored in greater concentration in one tissue than in another.

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ABSTRACT OF DISCUSSION

DR. TORALD SOLLMANN, Cleveland: Dr. Hatcher's explanation of the extremely rapid disappearance of the digitalis substances from the circulation is very likely correct, but the experiments reported do not, I think, prove the point. I should accept the proof that digitalis is not absolutely fixed in the tissues, since it can still be extracted or washed out of them; but there may be a quantitative difference, the tissues having a greater affinity than the blood. This could probably be determined by measuring the rate of disappearance from the blood when in contact with various tissues, heart, liver, etc., in the same way that the disappearance of epinephrin has been investigated.

DR. E. D. BROWN, Minneapolis: Since digitalis bodies are so prone to decomposition, it occurs to me that there may be some destructive principle in the blood itself which might account for the rapid disappearance, and I should like to ask Dr. Hatcher whether he added any of these digitalis bodies directly to the blood and allowed time equivalent to the mammalian circulation, and time required to defibrinate the blood.

DR. ROBERT A. HATCHER, New York: It was merely offered as a suggestion that the digitalis bodies diffuse into the body tissues. While I have tried to determine whether or not any of the tissues fix the digitalis bodies, I wish to avoid a discussion of that phase of the question at this time, except that I may say that no one has been able to find that any of the body tissues fix large amounts of these bodies. While Cloetta did seem to find that certain tissues fixed a portion of the secret preparation known as digalen, his results are not universally accepted.

VENOUS BLOOD-PRESSURE AS INFLUENCED BY THE DRUGS EMPLOYED IN CARDIO-VASCULAR THERAPY *

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When one considers the enormous amount of attention that has been directed to the changes in arterial pressure, it appears that the study of the venous pressure has been neglected. There has been no neglect, however, in the study of the waves in the venous pulse. It is fair to say that the investigations of sphygmographic tracings of the venous pulse have thrown as much light on cardiac and circulatory phenomena as have those of tracings of the arterial pulse. Is it not possible that a knowledge of variations in venous pressure may prove as valuable as that of variations in arterial pressure?

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

Venous pressure has excited the interest of physiologists with special reference to vasomotor influences. It is well known that the arteries of the body are supplied by vasomotor nerves which largely determine the volume and rate of flow of blood within them. Formerly the rôle of the veins in the circulatory system was looked on as an essentially passive function. It was assumed that a rise in arterial pressure from any cause is accompanied by a fall in venous pressure, and that a fall in arterial pressure is associated with a rise in venous pressure. Such a conception of the venous pressure is no longer tenable.

It has been demonstrated by Mall[1] that the portal vein is controlled by constrictor fibers from the splanchnic nerves, and considerable proof has been offered by Roy and Sherrington[2] to show that the systemic veins are also supplied by vasomotor nerves. Other valuable contributions to our knowledge of venous pressure have been made by Frey,[3] von Basch,[4] Bayliss and Starling[5] and Sewall.[6] The importance of the subject is indicated by the hypothesis recently advanced by Henderson[7] to explain shock, which he believes is due to failure neither of the heart nor of the arterial system, but of the venopressor mechanism.

On the clinical side investigations are still meager. Calvert[8] called attention to the value of a rising venous pressure as a danger signal in pleural effusions. Hooker and Eyester[9] carried out a series of observations on venous pressure changes in various diseases of the heart. That the veins, like the arteries, have the power to maintain their blood-pressure within wide limits was emphasized by Moritz and Tabora,[10] who found that it was necessary to withdraw over 500 c.c. of blood by venesection in a human being, before any appreciable fall in the venous pressure occurred. The effect of drugs on venous tension has been very little studied by either pharmacologists or clinicians. The best research of this kind is by Plumier,[11] who in a general survey of the subject records a number of valuable experimental data.

Our experiments were confined to a comparison of the influence of cardiovascular stimulants on venous pressure with that on arterial pressure. Dogs were used and kept under light ether anesthesia during the observations. The venous pressure was taken by the method of Moritz and Tabora, in which a hollow needle is inserted in the femoral vein and the pressure transmitted to a water manometer. A float was devised by Dr. Matthews to carry the delicate fluctuations of the fluid to a pen, which made tracings on a drum. The arterial tension was recorded from the carotid in the usual manner. The drugs were injected, as a rule, into the femoral vein, opposite to the one from which the pressure was taken.

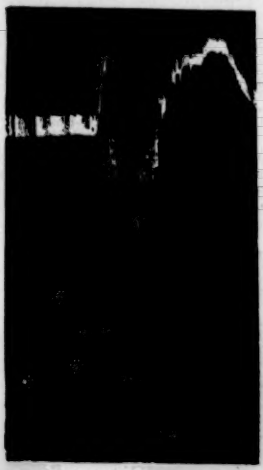

Chart 1.—Tracing to illustrate the rise in venous pressure after large dose of epinephrin. Note the slow interrupted arterial strokes, showing impairment of heart-action.

Chart 2.—After electrical stimulation of vagus nerve the arterial pressure falls and the venous pressure rises. Compare with action of epinephrin.

Chart 3.—Following administration of nitroglycerin there is a rapid fall in both venous and arterial pressure, with gradual recovery.

The Digitalis Group.—Three preparations of this group were used intravenously: digitalin in doses of from 1/30 to 1/20 grain; digipuratum solution, 1 c.c. (equal to 1½ grains of the powder), and strophanthin from 1/120 to 1/60 grain. A moderate and gradual rise in arterial pressure always ensued. The venous pressure was not materially altered in any instance.

Epinephrin.—Doses varying from ½ to 10 minims of a 1:1,000 solution of epinephrin were employed. This was further diluted in 2 c.c. of normal salt solution and slowly introduced into the circulation. The

1. Mall: Arch. f. Physiol., 1892, p. 409.
2. Roy and Sherrington: Jour. Physiol., 1890, xi, 85.
3. Frey: Deutsch. Arch. f. klin. Med., 1902, lxxiii, 511.
4. Von Basch: Wien. med. Presse, 1904, xx, 962.
5. Bayliss and Starling: Jour. Physiol., 1894, xvi, 159.
6. Sewall, Henry: Experiments on Venous Blood-Pressure and Its Relation to Arterial Pressure in Man, THE JOURNAL A. M. A., Oct. 29, 1904, p. 1279.
7. Henderson: Am. Jour. Physiol., 1910, xxvii, 1.
8. Calvert: Bull. Johns Hopkins Hosp., February, 1908.
9. Hooker and Eyester: Bull. Johns Hopkins Hosp., 1908, p. 274.
10. Moritz and Tabora: Verhandl. d. Ver. f. inn. Med. zu Berlin, 1909, p. 379.
11. Plumier: Etude experimentale des variations de la pression veineuse, doctor's thesis, Liége, 1909.

arterial tension responded always with a prompt, rapid rise. With a small dose the venous pressure remained the same, but with the larger amounts the venous pressure rose from 10 to 80 mm. A large dose often inhibited the heart-action completely for a few seconds or caused slow, forcible contractions that produced a temporary fall in the arterial curve with slow, long strokes such as are seen after electrical stimulation of the vagus

Chart 4.—After large dose of morphin a marked fall in arterial and a moderate fall in venous pressure.

nerve. Indeed, Cushny[12] considers that the slowing of the heart from epinephrin is due to excitation of the vagus center in the medulla. The rise in venous pressure was coincident with this halting, irregular action of the heart, and it remained high until the normal rhythm returned. We found likewise that, in the slow or inhibited heart-action from exciting the vagus nerve with the faradic current, the venous pressure rose.

Hence it seems probable, as Plumier states, that the rise in venous pressure after large doses of epinephrin is explained by the halting heart-action rather than by any venomotor stimulation.

Pituitrin (1 c.c. of a 10 per cent. solution).—This drug acted similarly to epinephrin on arterial and venous pressures, although the changes were less pronounced.

Caffein.—Administered in the form of the benzoate with sodium from ½ to 2 grains, this drug induced a slight increase in the arterial pressure, but did not appreciably influence the venous pressure.

Strychnin Sulphate.—This drug affected neither arterial nor venous pressures until the dose was so large as to cause muscular contractions. Under these conditions, of course, the pressure in the veins rapidly rose.

The Nitrites.—These, administered by inhalation in the form of amyl nitrite or by injection of nitroglycerin from 1/150 to 1/50 grain, caused a decided fall in both arterial and venous pressures. As the heart-action was accelerated and was regular, it does not appear to be concerned in this general lowering of pressure. The drug apparently acts by depressing the nerve endings in the veins as well as in the arteries.

Morphin.—In moderate doses of from 1/8 to 1/6 grain, this drug tended to lower the arterial tension, without influencing the venous pressure. After large doses, from ¼ to ½ grain, the arterial pressure often fell rapidly and the venous pressure also sank to a slight degree. The depressing action of morphin on the venous tension was much less marked than that of nitroglycerin.

Alcohol.—Given in strength of from 25 to 30 per cent., from 10 to 50 c.c., the smaller amounts of alcohol depressed somewhat the arterial pressure, but did not influence the venous; doses large enough to markedly lower arterial tension resulted in augmenting the venous pressure. It was noted that the rise in venous pressure was proportionate to the degree of disturbance of heart-action.

From these observations it is seen that a rise in venous pressure occurred only after large doses of epinephrin, pituitrin and alcohol. Since in all these experiments the heart-action was seriously impaired, we are justified in explaining the rise of pressure in the veins by the development of stasis rather than by any vasomotor influence.

A fall in venous pressure took place after administration of the nitrites and of large doses of morphin. In these experiments the heart-action was not impaired.

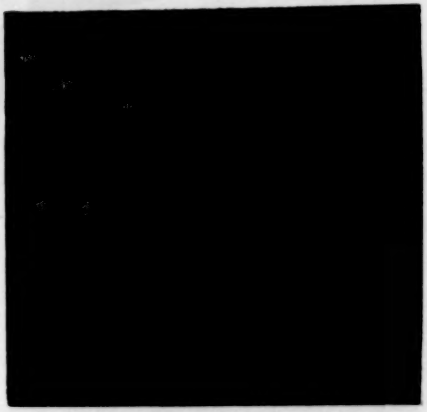

Chart 5.—Excessive doses of alcohol cause a temporary fall in arterial tension and sometimes a rise in venous pressure.

Hence the fall in venous tension may be attributed, with a high degree of probability, to a direct influence on the venomotor mechanism.

122 South Michigan Boulevard.

12. Cushny: Pharmacology and Therapeutics, Philadelphia, 1906, ed. 4, p. 460.

ABSTRACT OF DISCUSSION

DR. JOSEPH L. MILLER, Chicago: These results were strikingly like those seen in experimental pulmonary edema. If a cannula, connected with a manometer, is placed in the pulmonary artery and another in the carotid it will be noted that at the time pulmonary edema occurs there is a marked rise of pressure in the pulmonary artery. When epinephrin is used

for this purpose, there will often be a marked rise in the carotid pressure, and then a little later a marked rise of pressure in the pulmonary artery. At the point at which the pressure in the pulmonary artery rises, pulmonary edema begins to develop. When the exposed heart is examined at this time, it will be noted that at first there is a marked dilatation of the left ventricle, due to the increased arterial pressure. Finally a point is reached at which the left ventricle is no longer able to empty itself against the increased resistance. This causes a backing up of the blood in the pulmonary circulation, a rise in pressure in the pulmonary artery and the appearance of pulmonary edema.

DR. CLYDE BROOKS, Pittsburgh: I was present at some of Dr. Capps' experiments. He is correct in pointing out that venous blood-pressure is a subject which has been much neglected. I have studied the subject from some points. Dr. Luckhardt and I studied the blood-pressure of the unanesthetized animal during vomiting. Recently I assisted Dr. Simpson, Chairman of the Section on Obstetrics, in physiologic experiments connected with his address in which we studied arterial and venous pressure of animals in the Trendelenburg, horizontal and Fowler positions, together with the effect of intravenous injections of large amounts of salt solution in the effort to embarrass circulation by increased tension on the right heart. It was found that in case the peripheral resistance was increased up to the point at which the left heart is not overpowered, there is a decrease in the venous pressure. But with vasomotor dilatation, or peripheral dilatation, there is venous hypertension which interferes with the heart's activity. Anything that would cause a slowing of the heart's movements and weakness of the beats would cause congestion of the right heart. In the same way Dr. Simpson and I found that when the animal is raised to the Trendelenburg posture, or salt solution is put into the right vena cava through one of the branches, there is an increase in blood-pressure on the left side; but in case the heart is weakened by disease, hyperthyroidism, or long exposure to the Trendelenburg posture, an increase in the venous blood-pressure results. The question as to whether vasomotor constriction or vasodilatation of the medium sized veins will cause a rise at the site of the great veins seems to me a question as to what the result would be. If the heart is able to take care of the amount of blood carried to it there will not be a marked increase in pressure; but if the heart is not able to do this, the blood will dam up. There is one factor in Dr. Capps' results that must be considered, and that is the effect of the anesthetic on the blood pressure. In my experiments I endeavored to avoid that objectionable influence by using a T-cannula put in at previous operation. I have not studied all the drugs studied by Dr. Capps. Alcohol and digitalis are the two drugs I have studied especially. Dr. Capps has done an excellent and important piece of work; some modifications of the results may appear, however, when the drugs are studied on the unanesthetized animal.

DR. TORALD SOLLMANN, Cleveland: There seem to be two possible ways of influencing the venous pressure, each of these apparently acting in only one direction, cardiac insufficiency producing rise of pressure, and a vascular dilatation producing a pronounced fall of pressure. The latter is something which theoretically one might not altogether have expected. At least there might be two factors concerned there. Working with mechanical models one would expect that the lessened resistance in the arterial capillary system would increase the venous pressure. As Dr. Capps points out, this does not seem to occur. Why I do not know. The fall of pressure which one gets with the dilatation would therefore seem to indicate, as Dr. Capps believes, that there is an inhibition of the venomotor mechanism, that the veins themselves dilate, lessening their pressure. If that is so, one should also expect that a constricting action on the veins would tend to increase the venous pressure. Now it has been shown repeatedly that epinephrin does have a constricting effect on the vein. The tracing of Dr. Capps does not disprove this. The morphin phenomenon is entirely puzzling. The explanation which Dr. Capps gives, that the morphin must have a dilator effect on the veins, is not, of course, in consonance with what we know of the action of morphin. It would be very interesting to try whether or not morphin has any direct effect on the venomotor mechanism. There is one point that is worth considering: all the vasodilator measures mentioned here which give pure dilatation have been such as act on the peripheral terminations. Has Dr. Capps had any experience with cutting out the vasomotor center, without acting peripherally on the veins; for instance on section of the cord? Alcohol acts on the center, but this action is complicated by its cardiac action. Another problem which Dr. Capps probably contemplates taking up, is the effect of the principal therapeutic measures on pathologic conditions of the circulation, such as can be easily reproduced. The effect of epinephrin in producing rise of venous pressure and cardiac insufficiency means that the heart is overloaded by the excessive resistance. If a heart were already overloaded owing to loss of tone, the effects of epinephrin would perhaps be exactly reversed. We must be rather cautious in applying the present experimental results to the therapeutic use of these drugs, when we are already dealing with a pathologic condition in the circulation. I simply wish to mention that as a precaution.

DR. ALEXANDER S. VON MANSFELDE, Ashland, Neb.: I wish to draw attention to a defect that I find in Dr. Capps' work; it may be an old man's notion, although I find more and more that those carrying on experimental work lose sight of the fact that the body of man is not composed only of nerves and canals through which fluids pass. Nowhere is consideration given the fact that the body is composed of many millions of cells and that the venous pressure that Dr. Capps has so correctly pictured is largely owing to them and their activities. In this I assume an entirely different position from that of Dr. Capps. Now in the case of morphin and alcohol particularly, the venous pressure is somewhat of a puzzle as has been suggested, but we must take into consideration the fact that alcohol is primarily a cell irritant that is accompanied by all the physiologic functions of activity in the cell. If you take into consideration the fact that morphin does the very opposite in its relation to the cell life, laying it low, you must expect some change in the flow of the fluids that take part in the activity of that cell life. In other words, it is not only the *vis a fronte* which is represented by your heart, but it is also the *vis a tergo* that has very much to do with the matter. I wish that Dr. Capps would kindly take into consideration, in his next experimentation, the power of the cells of the body themselves in influencing the blood-pressure, both arterial and venous, because they have motion, activities of their own. His pictures will not be much different, but it seems to me that he will have a clearer way of expressing just what is happening when he gives these drugs. This idea of activity of cell life was explained seventy-five years ago by Sobernheim very clearly and distinctly.

DR. J. A. CAPPS, Chicago: Dr. von Mansfelde referred to the influence of the cells on venous pressure. This influence is difficult to demonstrate and yet it may be of considerable importance. In the development of his theory of shock by acapnia, Yandell Henderson emphasizes not only the venodilatation, but the loss of tonus in the cells. The results obtained by the use of drugs in animals may not of course be identical in man. We know, for example, that the dog is not especially susceptible to morphin. At the same time the effect of most drugs on the arterial and venous circulation is similar in animals and human beings. In man observations on the venous pressure have been made without the employment of anesthetics by Mortiz and Tabora, but comparatively few observations have been made on the action of drugs. A new field is open for the study of cardiovascular stimulants and depressants on the venous pressure by their method. Epinephrin seems to have no effect on venous pressure until given in large doses, when the heart action is slowed and interrupted. Then the tracing shows a rise in venous pressure which strikingly resembles that seen after strong electrical stimulation of the vagus nerve.

TWO UNUSUAL CASES OF ECTOPIC PREGNANCY

ONE A TRIPLET

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Surgeon to Grant Hospital
COLUMBUS, OHIO

Ordinary cases of ectopic pregnancy are of no scientific interest whatever, but occasionally a case occurs so much out of the ordinary run as to be worthy of permanent record. The following two cases, I think, come under that head, the first case being almost unique because of its accidental discovery, and the presence of the triplets. So far as I know, only two other cases of triplets have been reported, one by Cruzen, the three being in one tube, and the other by Launay[1] with twins in one tube and a single fetus in the other. The second is notable because of the symptoms being rather those of the menopause than of a pregnancy, the presumptive diagnosis being made entirely by the character of the pelvic mass.

CASE 1.—Mrs. M., aged 37½, married 19½ years, referred by Dr. Tracey, had two children, the youngest aged 16; labors natural. Miscarriages one, thirteen years before at six weeks; no assignable cause; no trouble. Patient consulted me Dec. 2, 1912, for relief of the procidentia which had been very annoying for the previous two years. Had had a good deal of local treatment, but without benefit. Had menstruated regularly and normally two weeks before. My own examination showed what seemed to be a hyperplastic uterus, with almost complete procidentia. I advised the usual repair from below, and then probably a hysterectomy with implantation of the ligaments into the stump. The operation was made the next day.

I first curetted, removing a good deal of débris, but nothing characteristic. The vaginal walls and perineum were then carefully repaired. When the abdomen was opened, the dark color of the peritoneum as it was reached caused both my assistant and myself to remark that it looked like an ectopic pregnancy. When the uterus was reached both tubes were found distended, and the right one leaking. The tubes were removed in the usual way, and then because of the long-standing uterine trouble, and the hyperplastic condition, a supravaginal hysterectomy was made in the usual way. On examination two fetuses were found in the left tube, and one in the right. The embryos were of the same size, about as large as peas. They were turned over to the hospital pathologist for more minute examination, who reported that all three were embryos and of the same age. The patient was greatly surprised when told of the find, as she had not suspected the possibility of a pregnancy.

CASE 2.—Mrs. G. L., aged 47, married twenty-five years, had two children, the youngest 16; no miscarriages. Had been operated on seven years before for ectopic pregnancy of about twelve weeks. Only the affected tube was removed, with the corresponding ovary. Consulted me Jan. 4, 1913. She stated that she had failed to menstruate in the previous June, had the usual flow in July, missed in August, flowed again in September, missed in October and November, but flowed again early in December. The flow was a mere dribble, and she had been dribbling from that time to the date of her consultation. Had had a good deal of pain through the lower abdomen, but no history of sudden pain with any collapse.

On examining the patient I found the uterus high up and pushed forward by a mass in the culdesac. This mass was boggy and tender. Its general "feel" was that of an ectopic pregnancy. I explained to her that except for her age, and the "dodging" menstruation for several months, I should have made a positive diagnosis of ectopic pregnancy, but that under the circumstances I should make no positive diagnosis since operative intervention was clearly indicated. At the operation next morning, a fetus 2 inches in length was removed from the remaining tube. The uterus itself was bedded in extensive adhesions, and the operation was therefore completed by a supravaginal panhysterectomy with implantation of the ligaments.

Each of these patients made an uneventful recovery.

1. Cruzen and Launay: Cited by McDonald, Ellice, and Krieger, William A.: Bilateral and Multiple Ectopic Pregnancy, THE JOURNAL A. M. A., June 7, 1913, p. 1766.

LACTIC-ACID BACILLUS SPRAY FOR DIPHTHERIA

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ROCHESTER, MINN.

A spray of lactic acid bacilli was recently used in available diphtheria cases in Rochester with the view of clearing up refractive diphtheria carriers and in an attempt to find for spraying some organism which is not foreign to human tissues and is not regarded as pathogenic.

The success was rapid and marked, but with only a few trials no definite statements can be made. This suggestion is hereby offered that others may try the lactic acid bacillus spray, as the staphylococcus is now being used for overriding local bacterial infections, so that its usefulness may be measured or the inadvisability of its use demonstrated.

Four cases of diphtheria appeared in the Rochester State Hospital for the Insane between Jan. 18 and Feb. 9, 1913. The last patient, a nurse in the isolation infirmary, showed no symptoms and was a secondary case. The other three patients, two of them nurses, appeared within eleven days. An appeal was made to the health officer for assistance. There was only one possible connection between any two of these cases; the patients had all had their meals prepared in a certain kitchen. Cultures were made from fifteen cooks and kitchen attendants, and a carrier was promptly located. She denied ever having had diphtheria. After her isolation no more cases developed in the institution.

To clear this normal throat of virulent diphtheria bacilli antitoxin was given subdermally followed by the daily local application of solutions of silver nitrate, phenols and iodin, but without avail. For the first two weeks the bacilli were found only in the throat-cultures. After eight positive cultures had been obtained in seven weeks under various treatments, the nose and throat spray of *Bacillus acidi lactici* was commenced. At the suggestion of Dr. A. H. Sanford, bacteriologist to St. Mary's Hospital, this lactic acid bacillus was employed because it is a good grower and not foreign to man, and is not classified as a pathogenic pus-producer. A one-day or two-day culture on agar was washed off in sterile normal salt solution and used in a sterile atomizer. The live organisms were required; hence, no antiseptic was used in the spray or on the mucous membranes. The spraying in the first case was continued one week and negative cultures were obtained, without subsequent positive growths.

The method was next employed in four cases in May, 1913. Two of the patients, adult brothers, after administration of antitoxin, were given daily pharyngeal swabs of full strength or of 50 per cent. tincture of iodin for twenty days, but with variable cultural results. Antiseptics were then discontinued and the use of lactic-acid bacillus spray was instituted. From these and another case, sprayed one noon, the next noon and the same evening, cultures were made the following morning, no diphtheria bacilli being found; without further spraying the second negative culture was obtained two days later.

An adult with a severe case of diphtheria in which the entire pharynx was blocked with membrane which extended over the uvula and tonsils, was given 33,000 units within forty-eight hours. Tincture of iodin was then used locally but without effect on the membrane within ten days. Thereon the lactic-acid bacillus spray was used three times within thirty hours, the membrane rapidly decreasing and practically disappearing within three days. Even with small vestiges of the membrane present on the tonsils reports of negative cultures were returned from the state laboratory.

In order not to lose time in advancing preventive medicine, these few results and suggestions are offered, but without too much enthusiasm. It seems advisable for others to assist in working out the question of employing the lactic-acid bacillus spray, not only for the clearing of diphtheria carriers and convalescent cases, but also in the treatment of the disease. When unexpectedly encountering a case of rural diphtheria, the physician, if without antitoxin or antiseptics, may perhaps find some advantage in swabbing or douching the nose and throat with ordinary sour milk.

TONSILLITIS FOLLOWING USE OF STAPHYLOCOCCUS SPRAY

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LANSING, MICH.

In view of the recent numerous reports regarding the use of staphylococcus cultures for the purpose of clearing the throat of diphtheria bacilli, it seemed that a report of the following case might be of interest.

History.—L. L., aged 18, schoolgirl, on Oct. 26, 1912, sought medical advice for the relief of continuous colds and constant nasal discharge. The immediate family of the patient were well and had never suffered from any throat or nasal diseases. There were three cases of cancer in the mother's family and there was history of Bright's disease on the paternal side. The patient was well and strong. She had had whooping-cough, measles and mumps and had always suffered from frequent colds and tonsillitis. Four years previously she had had adenoids removed and tonsillotomy done, with partial relief of the condition. She had had no attacks of tonsillitis since. For the last three months, following acute rhinitis, there had been constant nasal discharge.

Physical Examination.—The patient was a large, well-developed girl; both tonsils were large and the crypts contained cheesy exudate. Nasal examination showed a markedly deflected septum with obstruction of left nasal passage.

Treatment and Course.—October 31, the septum was straightened by Dr. M. L. Cushman. Recovery was rather slow and there was slight persistence of nasal discharge. November 14, the patient had a chill and complained of severe sore throat; November 16, a small patch of membrane appeared in the nasopharynx, culture from which, November 17, showed pure growth of Klebs-Loeffler bacillus. The membrane by this time had extended forward in the nose and was present on the right tonsil. The uvula was extremely edematous but showed no membrane.

Three thousand units of antitoxin were given with immediate improvement; November 22, the throat and nose were free from membrane. The patient's general condition was excellent throughout and at no time did she feel particularly ill. Swabs from the nose and throat on November 26 and December 2 both showed pure culture of Klebs-Loeffler.

As the patient was anxious to get back to boarding-school at the earliest possible moment, a pure culture of *Staphylococcus aureus* emulsified with sterile normal salt solution, prepared by Dr. M. L. Holm, state bacteriologist, was given her with directions to spray the nose and throat three times a day. She began the use of this at 8 a. m., December 3, the throat being normal in appearance.

December 4, at 10 a. m., the patient had a slight chill and sore throat. December 5, she was confined to bed, had complete anorexia, was nauseated and vomited; the bowels were constipated; temperature was 101.7; pulse was 120; there was profuse nasal discharge; there was no membrane in the throat and nose but the tonsils were much swollen and covered with discrete yellowish spots. At 7 p. m., the temperature was 103, pulse 122, and the cervical lymph-nodes were markedly enlarged.

One grain, broken doses, of calomel and five-grain doses of aspirin every three hours were ordered; during the night, the temperature steadily dropped to 99.5 and the pulse to 92. Recovery was uneventful but slow. The cervical lymph-nodes were enlarged and tender for about ten days. The nasal discharge continued profuse during this time and about five days after the beginning of the attack there was some swelling of the uvula. The patient felt much sicker during the attack of tonsillitis than during the initial attack of diphtheria.

Smears and culture from the throat and nose, December 5, showed abundant staphylococcus growth with a few diphtheria bacilli from the culture in the throat; December 10, the culture showed no diphtheria bacilli but showed numerous staphylococci with a few pneumococci and streptococci.

Thanks are due Dr. M. L. Holm for furnishing the staphylococcus spray and making the cultures.

Tussing Building.

AN ANOMALOUS CASE OF WHITE-SPOT DISEASE *

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WASHINGTON, D. C.

The following case is so interesting, both clinically and histologically, that it seems worthy of being reported in detail, especially as it may help to throw some light on the rather obscure relationship existing between certain cases of morphea guttata and lichen planus atrophicus et sclerosus.

History.—May 13, 1912, Dr. J. J. Richardson of Washington referred to me a white woman aged 32, who complained of some spots on her neck. The past and family histories were unimportant save that the patient had lived in Porto Rico, under the most favorable circumstances, for the past ten years. In spite of the most careful questioning no trace of syphilis could be elicited. Her husband had died twelve months before from an acute attack of appendicitis, and she had been considerably prostrated by the shock and had been somewhat depressed ever since.

In August, 1911, she first noticed some white spots on the back of her neck. As they gave rise to no symptoms she was unable to say just how long they had been present; but considering how conspicuous they were it seems improbable that they could have been of long duration without her attention being called to them. She was not aware of the presence of any other spots. The present condition of her neck is well shown by the unretouched photograph (Fig. 1).

Examination.—The most striking feature of the lesions was their snow-white color, not at all the color of an ordinary scar, but whiter and more glistening. On the neck there were two groups of spots, one just at the hair margin and the other about 8 cm. below. Both groups were almost in the midline. The upper patch contained about a dozen lesions and the lower patch about forty. The spots varied from 1 to 5 mm. in diameter, were sharply defined, more or less angular and

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, 1913

showed no central depression. They were distinctly macular, and no infiltration could be made out; in fact, rather the reverse was true, for they were slightly softer than the surrounding normal skin. The skin over them was dry, thin and wrinkled, and the tactile sensation was decreased but not entirely absent. The surrounding skin was normal with the exception of a few freckles.

Four days later a careful examination revealed many similar lesions. There were three small patches around the waist, just under the belt, one on the right side of the neck near the clavicle, one on each thigh, one on the back of the right knee and one on the perineum. None of these patches contained more than ten spots; in fact, the majority of them contained not more than four. The lesions were white, slightly depressed, and to the eye resembled scar tissue, for they totally lacked gloss. A slight central depression could be made out with a lens, but not with the naked eye. To the touch the spots did not feel like scar tissue, for they were slightly softer than normal skin.

The clinical diagnosis of morphea guttata was made, for the appearance of the lesions seemed to rule out lichen planus atrophicus.

A strong irritating treatment containing resorcin was at first used, but beyond inflaming the skin it did absolutely no good. Vigorous massage or the use of suction cups would frequently cause hemorrhage into the lesions but not into the surrounding tissues, and when this hemorrhage cleared up it was difficult to see the original white spot. In from two to three weeks, however, the gloss would begin to reappear, and the lesion become whiter.

Laboratory Investigations.—The Wassermann was faintly positive. The hemoglobin was 90 per cent. by a standardized Sahli instrument. The red blood-cells numbered 4,900,000, and the white cells 9,000. A differential count of 500 leukocytes gave the following results: polymorphonuclears, 57.2 per cent.; eosinophils, 2.4 per cent.; large mononuclears, 0.4 per cent.; small mononuclears, 38.0 per cent.; transitionals, 1.6 per cent., and mast-cells, 0.4 per cent. The urine had a specific gravity of 1.020 and contained no albumin or sugar, and no excess of indican. Microscopic examination revealed the absence of casts and red and white blood-cells.

Cultures taken from the serum expressed from the lesions gave no growth of bacteria, nor did smears show any microorganisms of any kind. One of the lesions on the flank was excised and fixed in alcohol. Sections were stained with hematoxylin and eosin, polychrome methylene blue, and neutral and acid orcein, both singly and in various combinations. All gave practically the same results. The most striking feature of all sections was the almost complete disappearance of collagen and elastin in a circumscribed area in the subpapillary portion of the corium.

The horny layer was a trifle thickened but was otherwise normal. In the center of the lesion there was a gaping follicle almost completely filled with keratin. The granular layer was normal, but the prickle-cells had almost entirely disappeared. The basal cells showed marked hydropic degeneration, nearly every one containing one or two vacuoles. Pigment was entirely absent. The wavy line between the rete and corium was almost obliterated. The rete stained as usual.

In the corium there was a sharply circumscribed area corresponding in size to the macule, and extending about half the depth of the corium, in which the collagen had undergone marked rarefaction and degeneration. The fibrous tissue of this area stained very faintly with eosin and orcein, and not at all with any of the other stains. There was marked intracellular edema, only a few strands of fibrous tissue being present. Each fiber was quite separate from the others. The nuclei had entirely disappeared from all of these fibers. In this area also the elastin had almost entirely disappeared, and what little remained was in the form of short, almost straight fragments. Within the degenerated area there was no cellular infiltration, with the exception of a few stray cells around the edges. No glandular elements were found although the entire lesion was sectioned. Very few blood-vessels were found, only one or two being present; in them the walls were lax and shapeless and only the endothelial elements remained. No definite lymphatics were seen. One muscle was found, intact. The entire lesion was walled in by a moderately thick infiltrate, consisting of small round cells and fixed tissue-cells. This infiltration was especially marked around the blood-vessels. The blood-vessels outside of the degenerated area were not changed, nor were the glandular structures or muscles. In the degenerated area just inside of the infiltration proper a curious type of cell was found about the size and shape of a plasma-cell, but with an oval nucleus in the center, and a strongly acidophilic protoplasm. The granules were about equal in size to those in an eosinophil. All stages of these cells grading into typical fibroblasts were found. These cells were probably the acidophilic plasma-cells of Schridde.[1]

Treatment and Result.—At the end of six weeks the patient left town for the summer, with instructions to alternate between mercury by mouth and Donovan's solution. On October 16 she reappeared, stating that although she had obeyed instructions she was no better. Examination showed that the lesions on the body had not changed, but that the spots on her neck had assumed a different aspect. They were still white, but with a faint yellowish tinge, and were not so glistening as formerly. Their general character and size were still the same: they had not become confluent, but nearly every one contained from two- to four-minute honey plugs. Further biopsy was not permitted. On the next day the patient left for Porto Rico.

When first seen this case was almost clinically typical of the morphea guttata cases, but when later seen more closely resembled the lichen planus atrophicus cases.

Histologically the picture was totally different from that usually associated with lichen, but more nearly resembled Johnston and Sherwell's[2] case of "white-spot disease."

A critical comparison of the various types of "white-spot" cases is necessary in order to determine in just what group this case should be placed. Five groups of cases have been described; namely, "white-spot" disease, morphea guttata, lichen planus atrophicus et sclerosus of Hallopeau,[3] lichen albus of von Zumbusch,[4] and the *kartenblattähnliche Sklerodermie* of Unna.[5] Further work by Montgomery and Ormsby[6] has shown that the cases of "white-spot" disease are the same as the cases of morphea guttata, a group in which Unna's two cases are now placed. Recent work by Vignoli-Lutati,[7] Ormsby[8] and others has shown that lichen planus atrophicus is the same disease as lichen albus. There are a few cases, however, which do not entirely fill the conditions of either group, namely, the case of Johnston and Sherwell[2] and the case of Riecke.[9]

Etiology.—The origin of the morphea cases is in doubt. The disease nearly always occurs in women, either young or middle-aged, but beyond that nothing is known. The lichen planus atrophicus cases are now regarded as unusual forms of lichen planus in which the lesions begin as white papules, for the form of lichen planus which begins in the usual way and later becomes atrophic must be carefully excluded. Again the etiology is unknown; the disease occurs in nervous women over 30 years of age.

1. Schridde: In Adami: Inflammation, New York, 1907, p. 66.
2. Johnston and Sherwell: Jour. Cutan. Dis., 1903, xxi, 302.
3. Hallopeau: Ann. de dermat. et de syph., 1889, Series 2, x, 447.
4. Von Zumbusch: Arch. f. Dermat. u. Syph., 1906, lxxxii, 339.
5. Unna: Handbuch der Pathologie der Hautkrankheiten, Berlin, 1894, p. 1121.
6. Montgomery and Ormsby: Jour. Cutan. Dis., 1907, xxv, 1.
7. Vignoli-Lutati: Dermat. Wchnschr., 1912, liv, 661.
8. Ormsby: Lichen Planus Sclerosus et Atrophicus, THE JOURNAL A. M. A., Sept. 10, 1910, p. 901.
9. Riecke: Arch. f. Dermat. u. Syph., 1909, xcix, 181.

Symptomatology.—Lichen atrophicus begins as a papule, white, angular and firm to the touch, each papule containing either comedo-like pus or corresponding depressions. The lesions may become confluent and later leave scars. Circumscribed scleroderma is not distinctly papular, and the lesions do not contain spines or depressions, and do not become confluent. A slight inflammatory halo may be found in both conditions.

Histopathology.—In morphea the epidermis is practically intact, although there is frequently hyperpigmentation of the basal layer. In the corium there is hypertrophy of the collagen (the fibers running in straighter bundles than usual), diminished number of blood-vessels, dilated lymph-spaces, excess of pigment in the corium and infrequency of glandular structures. There is a general sclerotic condition of the corium.

The histopathology of lichen atrophicus as studied by Ormsby and others corresponds in a general way to the pathology of lichen planus, except that the infiltration is deeper. The horny and granular layers are usually thickened, while the remainder of the rete is atrophied. The wavy line between the rete and corium is missing. The upper portion of the corium shows collagenous hypertrophy. The elastin is reduced in amount. A cellular deposit is present deep in the corium and about the blood-vessels, glands and follicles. Horny plugs are present in the sweat-pores and the ducts show hyperkeratosis.

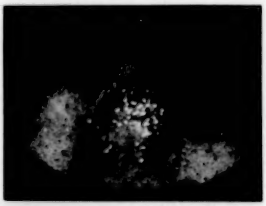

Fig. 1.—Neck of patient when first seen.

Prognosis.—Both diseases end in the same way, by atrophy so that a scar is left.

Treatment.—Irritative treatment in both classes of cases may do some good.

It can readily be seen that the chief difference between the two diseases lies in the following facts:

1. The lesions of lichen atrophicus are distinctly papular at the beginning, while the lesions of morphea are macular, or possibly maculopapular.

2. The lesions of lichen contain either spines or depressions, which is not true of the spots of morphea.

3. The lesions of lichen are more apt to become confluent than are the lesions of morphea.

4. There is a deep cellular infiltration in lichen that is lacking in morphea; in lichen the horny and granular layers are thickened while the remainder of the rete is atrophied, a point that is not true of morphea guttata in which the rete is usually intact.

It is evident that my case differs from either group in the following particulars: (1) in its clinical course, starting as a morphea-like condition and changing its lesions so as to simulate lichen planus atrophicus; (2) in its histology, there being a rarefaction instead of a sclerosis.

Nor does the case correspond to any of the atypical cases that have from time to time been reported as being related to one of two groups. It does somewhat resemble Johnston and Sherwell's case of "white-spot" disease in which the eruption consisted of white macules over the chest and shoulders, the lesions having the following histopathology: the rete consisted of four or five layers of cells showing hydropic degeneration, the stratum granulosum was practically absent, and the wavy line between the corium and rete had disappeared. The collagen was absent and the elastin was broken into short bits. There was an irregular lymphocytic infiltration. The few remaining blood-vessels were dilated and the endothelium projected into the lumen.

Fig. 2.—Low-power drawing through lesion.

In Riecke's case, which in some respects is similar to mine, the lesions were macular and lustrous, and each had a central depression. Later the lesions became confluent. Histologically the granular layer was thickened, but the rest of the rete was absent, with the exception of the basal layer, which showed marked hydropic degeneration. The connective tissue of the subpapillary portion of the corium was thickened and straightened, and contained no nuclei and no pigment. The elastic tissue was normal, the blood-vessels were increased in number and dilated, and the sweat-glands were unchanged. There was a moderate small-celled

Fig. 3.—High-power photomicrograph to show epidermis and subpapillary portion of degenerated corium.

infiltration of the papillary and subpapillary layers of the corium. There was infiltration around the blood-vessels at the edge of the lesion. With the exception of the hypertrophy of the corium and the presence of an increase in the blood-vessels, the histology of Riecke's case is similar to that of mine.

White[10] also has reported a case of "dermatolysis" which has certain histologic similarities to mine, although an entirely different clinical appearance, the lesions being nodular and cherry-colored, and later becoming dirty white. Histologically there was rare-

10. White: Jour. Cutan. Dis., 1908, xxvi, 295.

faction of the lower portion of the corium. The nuclei were retained, and there were endarteritis, marked epidermal changes, perivascular, perifollicular and periglandular lymphocytic infiltration, basophilic collagen, collastin, with a diminution of elastin, and later a disappearance of both collagen and elastin.

Finally Dubreuilh[11] has reported a case in which there was first a perifollicular rarefaction followed by scleroderma; but again this does not correspond to my case.

CONCLUSIONS

1. It is generally conceded that there are two groups of cases that may give rise to "white spots," the morphea guttata group and the lichen planus atrophicus group.

2. Typical cases of either one of these groups differ both clinically and histologically from typical cases of the other group. The large majority of reported cases fall clearly into one or the other class, and there is no instance on record in which the lesions of one type have been converted into lesions of the other type.

3. Clinically the character of the eruption in my case changed from that of a morphea guttata type to that of a lichen planus atrophicus variety, and in this respect is unique.

4. Histologically my case showed a subpapillary disappearance of both collagen and elastin, a condition approached only by the case reported by Johnston and Sherwell.

5. Judging by some of the cases reported it is impossible to draw a hard and fast line between the two types of disease. Riecke's case does not clearly belong to either type, nor does mine, for it presents features suggesting a transitional stage between the two groups.

I am indebted to Dr. Gilchrist for much advice and help, both in the study of the sections and in the preparation of the paper.

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ABSTRACT OF DISCUSSION

Dr. A. Ravogli, Cincinnati: I have had occasion to see some of these cases of white-spot disease, and I agree with the views of Dr. Hazen that some sclerotic condition of the tissues is always present. I recall the case of a woman in whom the white spots developed after an eruption of large papules, probably on a syphilitic basis. A photograph of this patient was published in connection with my article in the Beck *Festschrift*. I have also seen these lesions after lichen planus atrophicus, especially around the neck. Unless we consider morphea as a separate type, I think that in all these cases we have a degeneration of the connective tissues, with a lack of pigment and a resulting light, superficial scar.

Dr. H. H. Hazen, Washington, D. C.: So far as my observation goes, the histopathologic changes that occurred in the case reported in my paper represented to me a totally unfamiliar form of degeneration of the skin. From the literature, morphea and white-spot disease are totally distinct affections, and yet this case had features of each.

11. Dubreuilh: Ann. de dermat. et syph., 1906, vii, 569.

No Rats, No Plague.—Squirrels to the westward of the Rocky Mountains and the marmot in Asia are subject to the plague in a more or less chronic form, but these animals, on account of their infrequent contact with man, are a menace, not so much in transmitting the disease to man as they are in being the source of a continued reintroduction of the disease among the neighboring rat population. It is, therefore, evident that the slogan "No rats, no plague" is very expressive of fact.—R. H. Creel, *Pub. Health Rep.*

IDIOPATHIC ATROPHY OF THE SKIN

WITH REPORT OF A CASE *

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MINNEAPOLIS

Buchwald[1] in his work of 1883 was the first to describe an authentic case of idiopathic atrophy of the skin. Previously described cases were either secondary to some other disease or were scleroderma. Kaposi[2] in 1897 was the first to suggest that these cases were not primarily an atrophy but rather a dermatitis passing into atrophy. Herxheimer and Hartmann[3] in 1902 were the first, however, to use a title suggestive of this dermatitis. They published their observations on twelve cases under the title of "Acrodermatitis chronica atrophicans."

In a monograph published in 1910, Finger and Oppenheim,[4] after an exhaustive study of all cases found in the literature as well as those seen by themselves, suggested a classification and nomenclature which if followed should serve to clear away the confusion at present found in the literature on skin atrophies.

English literature is especially weak on this subject, owing perhaps to lack of cases for observation; but many cases have been so meagerly and indefinitely reported that one is unable to decide whether or not many of them should be accepted as authentic. Then too, many cases reported in the United States have been cases of atrophy occurring secondarily to some specific disease such as syphilis, and some cases probably were scleroderma.[5] Leaving these out, one may safely say that cases of idiopathic atrophy are rare here.

In their classification Finger and Oppenheim exclude all cases of so-called deuteropathic or secondary atrophy. This rules out congenital and senile atrophy, striae et maculae distensae, atrophies following lupus erythematosus, leprosy, scleroderma, morphea, xeroderma, etc. Included are those cases of atrophy which cannot be accounted for by any known disease and which present, in general, histologically and clinically, a dermatitis of gradual and insidious onset followed by atrophy. The skin is loose, wrinkled and has little or no elasticity. All cases which may be included under their definition whether of atrophies occurring in circumscribed areas, atrophies listed as suggested by Herxheimer (dermatitis chronica atrophicans) or as erythromelie, or so-called diffuse idiopathic atrophies, are different in degree and not in kind. Therefore, Finger and Oppenheim offer the following classification:

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

* Sections and Histologic Pathology by E. T. Bell, M.D., Department of Pathology, University of Minnesota, College of Medicine and Surgery.

1. Buchwald: Ein Fall von idiopathischer, diffuser Hautatrophie, Arch. f. Dermat. u. Syph., 1883.

2. Kaposi: Verhandl. d. Wien. dermat. Gesellsch., 1897, iii; Arch. f. Dermat. u. Syph., 1897, v, xxxix.

3. Herxheimer and Hartmann: Ueber Acrodermatitis chronica atrophicans, Arch. f. Dermat. u. Syph., 1902, lxi, 57.

4. Finger, E., and Oppenheim, M.: Die Hautatrophien, 1910.

5. Ravogli's case reported in 1903 came to necropsy and showed a gumma of the brain. Fordyce's case in 1904 was one of syphilis, and the patient recovered under specific treatment. Finger (Die Hautatrophien und deren Verhältnis zu Sklerodermie, Wien. med. Wchnschr., 1910, No. 3, p. 165) asserts that the case reported by Taylor (Am. Arch. Dermat., 1876), was one of circumscribed scleroderma; that the case of C. S. Smith (Jour. Cutan. and G. U. Dis., 1888), was scleroderma; questions whether Duhring's case (Am. Jour. Med. Sc., 1892) was not one of morphea alone and combined with maculae atrophicae, and asserts that the case of Taylor (Jour. Cutan. and G. U. Dis., 1893) was one of *sklerodermie en plaque*, and that the case of Bronson (Jour. Cutan. and Ven Dis., 1895), was a typical case of lupus erythematosus.

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1. Dermatitis atrophicans diffusa or universalis, which applies to those cases involving large areas or the entire body.

2. Dermatitis atrophicans maculosa, applying to those cases in which only small circumscribed areas are involved.

The first class can be further divided clinically into acrodermatitis atrophicans (Herxheimer), which begins on and is usually confined to the extremities, and dermatitis atrophicans, which may appear on various parts of the body. The acrodermatitis atrophicans frequently has the further characteristic that the inflammatory stage shows not only a redness but even a marked swelling and infiltration.

Fig. 1.—Extent of diseased process, up leg over crest of ilium to *A*; up arm onto shoulder to *B*. Note fine wrinkling of skin.

As an example of dermatitis atrophicans diffusa the following case is submitted:

REPORT OF CASE

History.—G. B., widower, aged 61, with no occupation at present, has been a carpenter and a blacksmith. The father died at the age of 55 and the mother at 50, from unknown causes. The patient has four brothers, of whom two died in childhood, and two are living and well, and three sisters, two of whom are dead and one is living and well. The patient was born in Austria and has had no illness except that he asserts that he had syphilis; but the history is questionable. He took practically no treatment, and now has no symptoms and a negative Wassermann reaction.

Present Illness.—This dates back about twenty-five years, starting with redness and swelling of the skin of the dorsum of the left foot and the back of the right hand; then the left hand was involved and last the right foot. The swelling present in the skin of the feet and legs is variable, being sometimes better and sometimes worse. The subjective symptoms have varied; occasionally the patient has a great deal of burning and itching, and again none at all. The extension of the condition over the extremities onto the trunk has been slow but gradually progressive.

Examination.—The patient is of average size and fairly well nourished; the hair and nails are unaffected. The reflexes are normal. The thyroid gland is normal in size; the inguinal lymph-nodes are palpable but not enlarged. Mucous membranes are negative. The urine is a light straw color, clear, specific gravity 1.018, and neither albumin nor sugar is present. The patient has complained at times of frequent urination of good-sized amounts, even getting up several times at night; but examination was negative and no cause for this condition could be found. Examination of internal organs is negative. The skin affection is roughly symmetrical and extends from the backs of the feet to Poupart's ligaments anteriorly and to the lumbar region posteriorly, from the wrists over the arms and onto the shoulders (Fig. 1). The junction of normal skin with the diseased part on the feet is sharply marked by an area from 1 to 1½ inches wide which extends along the sides of feet about an inch above the soles, and passes over the bases of the toes. This area is distinctly bluish-red and edematous, is soft and shows numerous ramifying dilated vessels; its margin is irregularly scalloped: below is normal skin; above, the skin is more of a clear pink, is hard, tense and edematous and has few wrinkles; in many places lamellar scales are seen. This swollen condition extends upward about half way to the knees anteriorly but not so high posteriorly (Fig. 2); it gradually fades or merges into more yellowish-pink skin with no edema, much decreased in thickness, of soft, silky appearance and with fine wrinkles, giving a crumpled cigarette-paper appearance. With the exception of an edematous plaque over the knees this atrophic condition extends to Poupart's ligament in front and to the lumbar region behind.

The skin of the genitals is not affected, which is characteristic. The scleroderma-like condition of the lower legs has been present in about one-third of the cases according to Finger and Oppenheim.[6] Through the atrophic skin the vessels show plainly as a network of whipcords. Where the tense edematous skin merges into the atrophic are many small areas with lamellar scales, on removal of which a depression is left that is white and almost scar-like (Fig. 2). Upward these appear to grow more numerous and smaller until gradually the diffuse atrophy appears, and passing downward these areas are larger, fewer and more separated until the skin is all tense and smooth except for a few scaly places around the ankles. The color can be pressed out of this edematous skin, but it does not pit; it can be folded some, not having the hardness of a true scleroderma, and it does not appear to be bound down to the underlying tissues. The skin is easily bruised and at times gives the patient considerable trouble with burning and itching.

On the posterior surface of the left thigh are three groups of rather round raised nodules. These groups are in a line running up and down the leg and separated about 2 inches. It appears that there was originally a raised plaque for each group, and that the formation of furrows running in various directions produced the nodular appearance (Fig. 3). These nodules are raised sharply from the surrounding atrophic skin, are smooth and of a very hard fibrous consistency, and the color is darker and more brownish than the adjacent skin. Below these groups are two or three small, round, smooth white areas which look as though they might have followed the disappearance of other nodules. These lesions made their appearance, according to the patient, about a year ago, and are

Fig. 2.—Tense edematous skin of lower leg merging into thin atrophic skin. At *A* are depressed scar-like areas where heavy lamellar scales were removed

6. Finger and Oppenheim: Die Hautatrophien, 1910, p. 24.

painless. Similar lesions were first described by Oppenheim and occurred in one of his patients on the extensor surface of the elbow and knee.[7] Noble and Rona have also observed these fibroma-like lesions.

The atrophy begins on the back of the right hand where the edge is not well marked, and passes up the arm onto the shoulder. On the left, the hand is not involved, the affection starting at the wrist where the color is bluish-red and continuing upward as on the right. The margins on the shoulders are marked by numbers of dilated vessels. On the upper extremities the skin is very thin, soft and wrinkled, and the vessels stand out very prominently. On the flexor surfaces of the forearms are seen at times fine bran-like scales.

Sensation in the thin skin seems about normal both to heat and cold and to touch, but there is some difficulty in distinguishing heat and cold in the infiltrated skin of the lower legs.

Histologic Examination.—For microscopic examination three small pieces of skin were removed, one from the back just above the buttock, one through one of the nodules on the thigh and one from the anterior surface of the lower part of the leg.

Sections from the first specimen show the malpighian layer of the epidermis much reduced in thickness (Fig. 5), but the stratum corneum somewhat increased. The papillae are entirely obliterated, making the line of contact between epidermis and corium almost a straight line. In the corium and subjacent subcutaneous tissue is a marked infiltration of mononuclear leukocytes. The high magnification shows many plasma cells. The elastic tissue is considerably reduced in quantity, but a number of fine fibers are still to be seen. In some portions of this section no elastic fibers are seen. No adipose tissue is present.

Fig. 3.—Nearly actual-size appearance of nodules on posterior aspect of left thigh. Fine crumpled tissue-paper appearance is well shown.

The skin alongside the fibrous nodule shows quite similar changes (Fig. 10), the cellular infiltration being much less and occurring only in small patches. The reduction of elastic fibers is more marked (Fig. 10); adipose tissue is absent. The nodule itself shows a structure corresponding to hard fibromas (which corresponds to the findings of Oppenheim), being fairly well-circumscribed and readily separated from the underlying tissues. It consists of fibrous tissue, rounded underneath but spreading out under the skin above. No elastic tissue is present.

The specimen from the lower leg shows the epidermis practically normal in appearance. There is a slight increase in lymphocytes in the connective tissue. Elastic tissue is almost entirely absent, no fibers staining with normal intensity, but a few faintly staining fibers are seen in some portions of the section.

ETIOLOGY

Many cases of idiopathic atrophy have been reported in which the etiology was quite plain. For instance, the case reported by Ravogli[8] came to necropsy and showed

Fig. 5.—Section of skin from left upper gluteal region. Hematoxylin and eosin. Note the thinning of the malpigian layer, the lymphocytic infiltration of the corium and subjacent subcutaneous tissue, the absence of adipose tissue, the absence of papillae, and the moderate hyperkeratosis. *S*, stratum corneum; *M*, stratum malpighii; *C*, corium; *Sc*, subcutaneous tissue.

a gumma of the central nervous system, and in that reported by Fordyce[9] there were plain evidences of syphilis, and an improvement of all symptoms followed the use of antisyphilitics. Later writers, however, both here and abroad, are inclined now not to consider these cases as true cases of idiopathic atrophy. Sutton and Kanoky[10] state that evidence occasionally can be deduced to warrant the recognition of a new and distinct disease, and in consequence many cases that formerly were classed among the idiopathic atrophies can now definitely be placed in groups of their own. Finger, Oppenheim, Arndt and many others are in accord with this view; consequently syphilis and diseases of the nervous system need not enter into a discussion of the etiology.

In considering the etiology a hypothesis must be advanced which will fit all the various classes of atrophy which differ in form and not in kind, and one which will constantly account for that which is histologically the typical finding, namely, the loss of elastic fibers. Other findings may vary in different cases and in different parts of the same case, but always we have the loss of elastic fibers.

Trauma was first considered as a causative factor, and Ehrmann attempted to prove the traumatic infectious nature of the malady, advancing as arguments the fact that most cases occurred in those whose work especially exposes them to trauma and infection, such as fieldhands, fishermen and washerwomen; that the beginning place was frequently in the skin where bones come close

7. Oppenheim, M.: Verhandlungen der 79 Vers. deutscher Naturforscher und Aerzte, Dresden, September, 1907; also die Hautatrophien, p. 26.

8. Ravogli, A.: A Case of Progressive Idiopathic Atrophy of the Skin, THE JOURNAL A. M. A., Jan. 10, 1903, p. 73.

9. Fordyce: Symmetrical Cutaneous Atrophy with the Coincidence of Syphilis of the Skin and Nervous System, Jour. Cutan. Dis., 1904, p. 155.

10. Sutton, R. L., and Kanoky, J. P.: A Comparative Study of Acrodermatitis Chronica Atrophicans and Diffuse Scleroderma, with Associated Morphea Atrophica, Jour. Cutan. Dis., 1909, xxvii, 556.

to the surface; and further he found histologically in very early cases a perilymph angitis. This view undoubtedly fits many cases and explains the inflammatory stage, but it does not account for the atrophy with the loss of elastic tissue. Further, many cases are recorded as occurring in office workers, salespeople and others whose work does not expose them to trauma or to infection. This hypothesis could not possibly fit those cases of diffuse dermatitis atrophicans that occur on protected areas or those of macular dermatitis occurring on various locations.

Fig. 7.—Section from the same specimen as the one shown in Figure 5. Weigert's elastic-tissue stain. There is a considerable reduction in the elastic tissue of the corium, although a large number of fine fibers are still to be seen. Elastic fibers, black; *S*, stratum corneum; *M*, stratum malpighii; *fe*, zone containing fine elastic fibers; *fc*, zone containing coarse elastic fibers; *g*, sweat-gland.

Trauma then can explain only the beginning of the cases in which there might be an injury and an accompanying infection, and a predisposition would be necessary to account for the atrophy of the elastic elements.

Many men have inclined toward atrophoneurosis. Neumann called it a trophoneurotic inflammatory process. Zinsser came to this conclusion, describing a case as a neuritic atrophy on account of the symmetrical distribution. Blaschko in his second case reported an angioneurosis with trophic disturbances and Heller found histologically atrophic nerves. In general, however, it does not appear that a direct connection with disturbances of the nervous system is present. Few cases show changes in the sensibilities either qualitative or quantitative. Reaction to cold, heat and pain are usually quite normal, as are also the reflexes. Muscles and bones show no atrophy as might be expected with a central trophic disturbance. Changes in the hair, nails and glands are rarely seen as would be expected.

Cases have been observed by Jadassohn, Heuss, Wechselmann and Bettman in tuberculous subjects, and this might be considered as a factor especially as a number of authors, including Orth, Federmann and Lubarsch, declare that the tubercle bacillus and its toxin has an elective action on the elastic tissue. Wechsberg found by animal experiment that the toxin was directly injurious to elastic elements. Whether this effect was mechanical or chemical remains unsettled, but it is probable that both have an effect. Meffert, studying experimentally the influence of the exudate and transudate, found histologically little difference, but asserted that the greatest decrease in elastic elements was caused not by exudative processes but by connective-tissue increase.

With dermatitis atrophicans complete loss of elastic fibers may be found without exudation or proliferation.

Oppenheim in studying histologically the organs and skin from cases of various forms of tuberculosis, could find no loss of elastic elements except when an exudate was present or when scars were found. Experimentally he studied the effect of tuberculin and other bacterial toxins on the aorta, skin and lungs, and could find no change in the elastic tissue. Experimental injections into animals also gave negative results. He therefore came to the conclusion that a specific action of the tubercle bacillus and its toxin on elastic tissue could not be proved; without a cellular infiltration no injury was observed. According to his results then, tuberculosis cannot be the cause of dermatitis atrophicans in any case in which there is loss of elastic fibers independently of infiltration.

An interesting experiment was tried in one of Finger's cases. Serum from a patient with dermatitis atrophicans maculosa was injected into the healthy skin of the thigh and also an injection of normal saline was made. The skin where the serum was injected became atrophic, but where the saline was injected no change took place. This would suggest that there might be some element in the serum which had the property of attacking the elastic fibers.

An etiologic factor which seems to play a rôle in the history of a large number of cases is the influence of

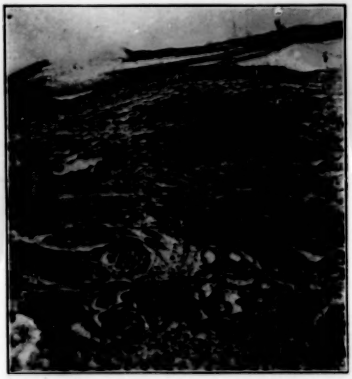


Fig. 10.—Section from the skin of back of thigh, taken near the nodule shown in Figures 8 and 9. Weigert's elastic-tissue stain. Elastic fibers black. There is a marked reduction of elastic tissue. Epidermis resembles that shown in Figure 5; *S*, stratum corneum (torn); *M*, stratum malpighii; *e*, area containing sweat-gland

temperature and weather, frosting, freezing, chilling, wetting and exposure to heat, as in cases of Columbini, Pospelow, Heller, Nikulin, Herxheimer and Hartmann and in some of Finger and Oppenheim's cases. My case was in a blacksmith for many years exposed to the heat of the forge. Nothing definite can be asserted for this, merely that it apparently bears some relation.

The fact that some cases of Roentgen dermatitis have resulted in scleroderma-like changes and sometimes give a similar picture to idiopathic atrophy with erythema and venous stasis, with histologically, according to O

Salomon and G. Noble, infiltration around the vessels, flattening of papillae and decrease of elastic tissue, might be regarded as significant.

One must also remember that xeroderma pigmentosa starts as an erythema solare and that in the atrophic stage it shows degeneration of elastic and connective tissues. These facts suggest that light may bear a certain relation to the atrophy.

Finger and Oppenheim after their studies and observations came to no definite conclusion as to the etiology, but offer three hypotheses which cover all classes of the idiopathic atrophies:

1. An internal causative agent acting on a predisposed skin, accounting for the macular and diffuse dermatitis atrophicans.

2. An external causative agent acting on a predisposed skin, accounting for the acrodermatitis atrophicans. Here mechanical, chemical and thermal injuries come into regard.

3. An external causative agent, through intensive and length of time of applications, can of itself cause atrophic conditions, as with the Roentgen-ray.

DIAGNOSIS

If a classification such as suggested by Finger and Oppenheim is accepted, much confusion is at once done away with and there remains but one disease with which dermatitis atrophicans may be confused—scleroderma.

Most authors agree that the differential diagnosis is usually easy, but I must confess after going over the literature that unless some one's work is taken as a standard one could put a given case in either class. For instance, Herxheimer in 1905 went into a detailed differentiation of scleroderma from acrodermatitis atrophicans, and according to him there could be confusion only in the atrophic stage; the early stage both histologically and clinically was easily differentiated. On the other hand, Arndt[11] in 1909 in reporting a case held that confusion can occur only in the early stage. Finger and Oppenheim also maintain that the diagnosis is harder in the initial stage than in the atrophic. In the infiltrated stage scleroderma shows a harder infiltration, the color is whiter than with dermatitis atrophicans and the skin is bound down to underlying tissues. Histologically scleroderma shows a marked increase in the collagenous fibers and not so much infiltration. Both may show loss of elastic fibers and atrophy of papillae. In the early stage it seems that there will be some cases which are atypical which will be hard to classify. Later in the condition two good points are suggested, one by Arndt, who believes that the most typical characteristic of the dermatitis atrophicans is its tendency to start on the extremities and progress toward the center of the body, while scleroderma shows no tendency to any regular localization, the other by Finger and Oppenheim who suggest that the best single diagnostic point is the so-called anetodermia, that is, the wrinkled or literally the sleeping skin. These authors[12] say that scleroderma always passes into a smooth scar-like atrophy and that any case which had been diagnosed scleroderma in the infiltrated stage which shows later wrinkled atrophy is not a scleroderma but an idiopathic atrophy.

PROGNOSIS

The prognosis in so far as *restitutio in integrum* is concerned is bad although two cases have been reported with recovery, one by F. J. Pick[13] and one by Finger and Oppenheim.[14]

THERAPY

Therapy is symptomatic and palliative. Improvement in the inflammatory stage may follow warm baths, galvanization or massage. My patient does not like heat either moist or dry, saying that it causes intolerable burning. He has been relieved of the itching and states that he feels more comfortable after the use of the faradic current and emollient salves; over the thin atrophic skin he has absolutely no symptoms and complains only of the legs and feet where infiltration is present. The dryness of the atrophic skin can be relieved by indifferent emollient salves. Internally tonics such as iron and arsenic are suggested to improve the general health.

601 Syndicate Building.

ABSTRACT OF DISCUSSION

DR. RICHARD L. SUTTON, Kansas City, Mo.: With the exception of the tumors on the thigh, the case here presented closely resembles one described by Bronson in 1892. Much of our earlier knowledge of this condition we owe to Pick of Prague, who first described the disorder as *érythromélie*, in 1888. I am of the opinion that in dealing with a case of this kind we are often too prone to try to make the case fit the disease instead of the disease the case. In 1905, Herxheimer and later, in 1908, Herxheimer and Hartmann described under the title of "acrodermatitis chronica atrophicans," a series of cases which presented, in varying degree, inflammatory manifestations followed by an atrophy of the affected skin resembling "crumpled cigarette-paper." While some of these cases proved acceptable under the title suggested, others did not. In 1910, I had an opportunity to study and report two cases, both occurring in the practice of my associate, Dr. J. P. Kanoky. One was clinically indistinguishable from a typical example of the so-called "acrodermatitis chronica atrophicans" of Herxheimer and Hartmann; the other was a mixed case of scleroderma and morphea atrophica. Histologically, the two cases were practically identical; consequently, I expressed the belief that while the gentleman from Frankfort may have been describing a new clinical and pathologic entity, the example of "acrodermatitis chronica atrophicans" studied by me was not a new disorder at all, but atrophic scleroderma. Later, my findings were verified by one of Unna's students, in Hamburg. In a third communication, Herxheimer, in collaboration with Schmidt, acknowledges that the two conditions are frequently indistinguishable.

Dr. Irvine places great stress on the decrease or absence of elastic tissue in the affected areas; in fact, he apparently agrees with Finger and Oppenheim in their assertion that this feature is pathognomonic of the disorder. Charles J. White, D. W. Montgomery and others have shown that the elastic fibers are diminished to a greater or lesser extent in a large number of cutaneous disorders; consequently, I fear that the conclusions of the men quoted by Dr. Irvine have rather an insecure foundation. I know of only two diseases in which the partial or complete absence of elastic tissue is probably a characteristic feature: epidermidolysis bullosa (the epidermolysis bullosa of Kolmer) and angiokeratoma (Mibelli).

DR. M. L. HEIDINGSFELD, Cincinnati: Dr. Irvine's patient immediately impressed me as being a well-defined case of erythromelia. The thin, wrinkled, parchment-like character of the affected areas, purplish-red discoloration, superficial telangiectases and symmetrical distribution over knees and elbows are absolutely typical. I think that the nodules over the legs are of secondary character, not relative to the affection. Erythromelia is a distinct entity, and a tendency to group this with such affections as scleroderma, acrodermatitis

11. Arndt, G.: Acrodermatitis chronica, atrophicans und Zirkumscripte Sklerodermie, Berlin. Med. Wchnschr., 1909, xxviii, 1303.
12. Finger, E., and Oppenheim, M.: Die Hautatrophien, p. 125.
13. Pick, F. J.: Ueber Erythromelie, Arch. f. Dermat. und Syph., Festschrift gew. M., Kaposi, 1900.
14. Finger, E., and Oppenheim, M.: Die Hautatrophien, p. 43.

and lichen sclerosus is confusing and unnecessary. I regret to note the same tendency by some others to group such affections as psoriasis, lichen planus and parakeratosis variegata in a similar manner. All these affections are distinct entities and failure to recognize individual types lies with us and not with the affection.

DR. WILLIAM A. PUSEY, Chicago: I had the opportunity of watching throughout its course a case which presented the terminal stages of practically the same affection which we have here. There were, when I first saw the case, areas of pseudosclerosis, with a distinct inflammatory element in the lesions. Later there was atrophy, such as is seen in this case; most interesting of all, I saw the patient a year later with gummata. I put this case and mine into the same class with those of Bronson and Fordyce. Until the appearance of the gummata on the legs, I had not suspected an association of the condition with lues. The process, to my mind, is an endarteritis of the superficial vessels, with subsequent atrophy, and it is due to various causes, of which lues is probably the most frequent.

I was glad to hear what Dr. Sutton had to say about the elastic fibers. Following Dr. Charles J. White's paper, in which he showed that destruction of the elastic tissue is one of the common changes in many processes in the skin, I have systematically examined it in all sorts of skin lesions, and I have found with White that it is a tissue element of great sensitiveness, the disappearance of which in skin lesions is so frequent that it can have little diagnostic significance.

DR. H. G. IRVINE, Minneapolis: In regard to the loss of elastic fibers, I did not wish to convey the idea that that was pathognomonic, but that it was the most constant finding, and in searching for the etiology of this condition, Oppenheim and Finger tried to learn the cause of this loss of the elastic tissue. That was the one constant finding; the other findings varied.

ADAPTATION OF THE CINEMATOGRAPH TO THE STUDY OF EMBRYOLOGY AND TISSUE-GROWTH *

JOHN ENGLISH McWHORTER, M.D.
AND
FREDERICK PRIME, JR., M.D.
NEW YORK

Our object in taking up this work has been twofold; first, to reproduce for the benefit of students, in their study of tissue-growth and the early development of the embryo, graphic pictures of the changes that these tissues undergo; and, second, to reproduce for study such movements as are not readily followed by the eye; such, for example, as the rapidly beating embryonic heart or the exceedingly slow movements incident to the growth of tissue and cell division. From the results thus far obtained, we feel warranted in assuming that the method about to be described of adapting the cinematograph to the microscope, for the purposes of photomicrography, is at least practical and capable of much further elaboration. The embryos as well as the tissues used in these experiments were those of the chick, the pictures being taken in different stages of development.

The preparation of the chick blastoderm for the purposes of photomicrography[1] may be described briefly as follows: Fresh fertile hen's eggs are incubated for from twenty-four to sixty hours at a temperature ranging from 37.5 to 40 C. (99.5 to 104 F.). At any stage between twenty-four and sixty hours incubation, the blastoderm may be removed from the egg and planted with comparative ease. Before and after that period, it is extremely difficult, if not impossible, to remove the embryo and prepare it for mounting without inflicting sufficient injury to cause death. Assuming that the incubation has been carried on for thirty-six hours, the first step after removal from the incubator is to cut

Fig. 1.—Egg, with part of shell removed, showing position of blastoderm on yolk.

away a sufficient amount of shell to expose the whole upper surface of the yolk. If the egg has developed normally, we see the embryo (Fig. 1) lying on the upper surface of the yolk, surrounded by a perfectly circumscribed zone, the extra-embryonic area. The embryo, with its extra-embryonic area, is freed from the yolk

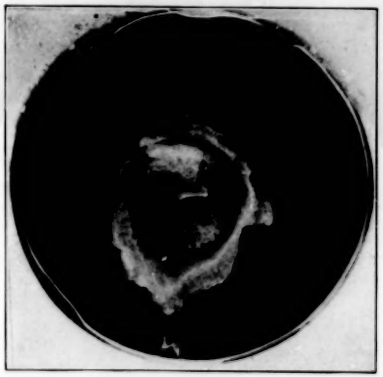


Fig. 2.—Glass cell showing blastoderm mounted and ready for microscopic study and photography.

with a pair of fine scissors, and with a spatula is lifted from its position and immersed in a warm isotonic solution, either Locke's or Ringer's. The embryo is freed of its adherent vitelline membrane and yolk while thus immersed, floated on a thin glass cover-slip, removed from the solution and drained of any excess fluid. A

* From the Laboratory of Surgical Pathology, Department of Surgery, College of Physicians and Surgeons, Columbia University.
* Read before the New York Academy of Medicine, Feb. 6, 1913.
1. Anat. Rec., vii, No. 3

few drops of chicken plasma are now allowed to flow over the specimen, which, on coagulation, attaches it smoothly and firmly to the surface of the glass. Finally, the cover-slip is inverted over a large glass cell (Fig. 2), sealed with sterile petrolatum and paraffin, and kept in the incubator at a constant temperature. In other words, we have made of our embryo a hanging-drop preparation. The preparation of tissue-cultures for this type of photography is essentially the same as that for study.

APPARATUS

As may be seen from Figure 3 the apparatus can be divided into three parts: (1) the modified incubator; (2) the optical bench; (3) the cinematograph.

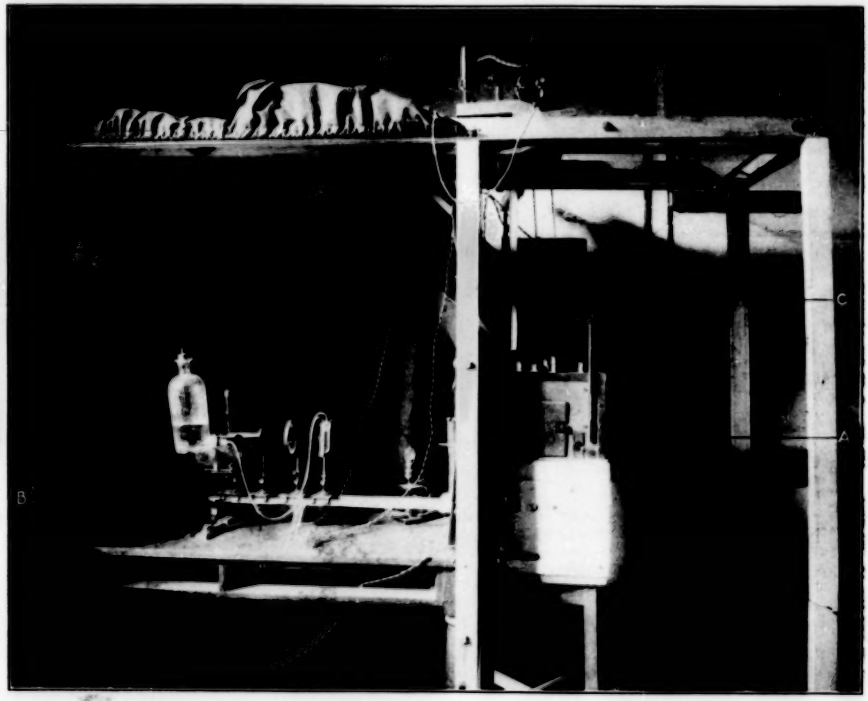


Fig. 3.—Apparatus: (*a*) The modified incubator; (*b*) optical bench; (*c*) cinematograph.

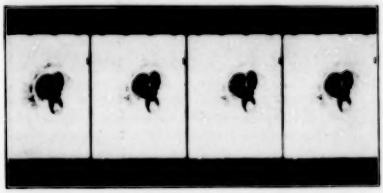
'The modified incubator' is constructed to contain a microscope on the stage of which a specimen may be kept at an equitable temperature and yet available for study. This is accomplished by projecting the draw-tube of the microscope beyond the upper surface of the box, and by means of connecting rods attached to the various adjusting screws of the microscope and mechanical stage. The introduction of light to this microscope is effected by transmitting the rays from the optical bench through a small window in the box to a right-angle prism immediately below the substage condenser.

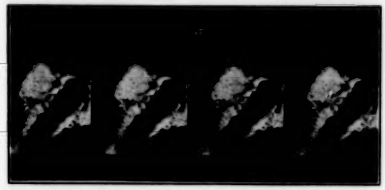
The optical bench is of the usual type; namely, an arc-light, iris diaphragm condenser and glass cell. The glass cell contains water in constant circulation. Its purpose is that of a filter and it removes to a large extent the heat-rays from the condensed beam of light. The automatic self-feed arc-light of from 15 to 20 amperes is the most suitable for this work, as it maintains a more constant and even illumination of the field.

In adapting the cinematograph to photomicrography the necessary changes are but two; first, a replacement of the lens by a metal tube; second, the substitution of a pulley and interlocking gear-wheels for the ordinary hand-cranking device. The gear-wheels, two in number, are of different sizes. The larger is screwed fast to the shafting that operates the mechanism within the camera, while the smaller, to which is riveted a small pulley, engages the larger wheel at one side. This reducing gear is so arranged that one revolution of the pulley gives one revolution of the rotary shutter within the camera, the equivalent of one picture.

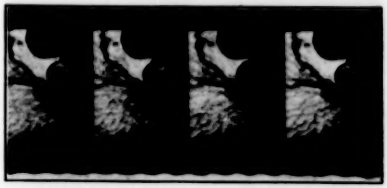
The camera is held in place over the microscope by firmly clamping it to a slotted plate. This plate is suspended over the incubator and held in place by means of a heavy skeleton framework, to which it is attached above, and reinforced below with guy wires. The framework extends the whole length of the optical bench and incubator, and is, wherever possible, bolted to that part of the apparatus, thereby acquiring a very high degree of rigidity.

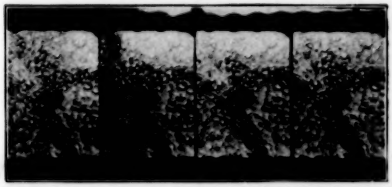
The cinematograph is operated by means of a small, slowly running motor, situated immediately above the camera and connected by belting. As the motor is governed by a rheostat, the number of pictures taken per second and the length of exposure as well are capable of being varied within very wide limits.





Figs. 4, 5 and 6.—Early stages in the development of the chick blastoderm; magnification from 2 to 5 diameters.





Figs. 9, 10 and 11.—Primitive circulation in area pellucida; magnification from 10 to 100 diameters.

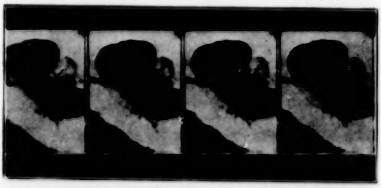


Fig. 7.—Heart in so-called loop stage; magnification from 5 to 10 diameters.

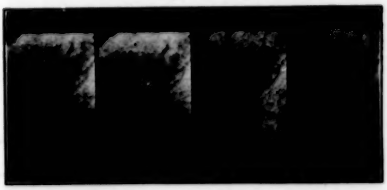


Fig. 12.—Primitive circulation more highly magnified; magnification 200 diameters.

Fig. 8.—Heart in so-called irregular loop stage, magnification from 5 to 10 diameters.

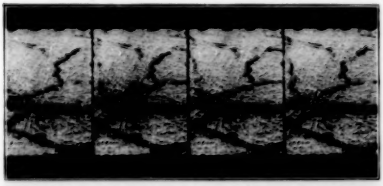


Fig. 13.—Circulation in frog's bladder, magnification 100 diameters.

METHOD OF USE

The method of photographing with this apparatus is the following: After the desired field in the specimen is found, the cinematograph is clamped to the slotted plate. The camera is then so centered that the eyepiece of the microscope is in a direct line with the center of the exposed film. All extraneous light is excluded by means of the tube, which, as already mentioned, is attached to the lens-board of the camera and when in position surrounds the draw-tube of the microscope. The rays from the arc-light having been carefully centered and cooled, the image to be photographed is brought to a sharp focus on the film. Having adjusted the diaphragm beneath the microscope to give the proper illumination of the field, and having determined the number of pictures per second necessary to record all the movements of the particular specimen under observation, the rheostat is next adjusted to the proper speed and the motor started.

The speed at which our pictures were taken has varied with the specimen; those of the beating embryonic heart, for example, were taken at the rate of about eight per second, while the movements of the cells may be clearly shown when taken at a rate not exceeding one or two per second. The movement of blood-cells in the circulation, however, is exceedingly rapid, and a speed of twenty-five per second is only sufficient to take those cells in the more slowly-moving blood-currents.

Fig. 14.—Outgrowth of connective-tissue cells in a tissue culture; magnification about 25 diameters.

Figs. 15 and 16.—Amœboid movement of mesenchymal cells; magnification 500 diameters.

In order to show the possibility of this work the accompanying photographs have been reproduced from a few of our films.

The pictures are divided into three groups:

1. The chick embryo in various stages of its development.

2. The primitive circulation in the area pellucida as well as the circulation in the bladder of a frog.

3. The movements seen in the embryonal connective tissue-cell as well as those of the ameba.

The first three embryos in Series 1 (Figs. 4, 5 and 6) show the action of the embryonic heart in the very early stages of its development, before the onset of the primitive circulation. These embryos vary in age from twenty-six to thirty-six hours' incubation, and have a magnification of from two to five diameters.

In the fourth picture (Fig. 7), of an embryo of from forty to forty-four hours, there is to be seen the heart in the so-called loop stage, with a beginning primitive circulation.

Fig. 17.—Streaming granules in a recently divided connective-tissue cell; magnification about 500 diameters.

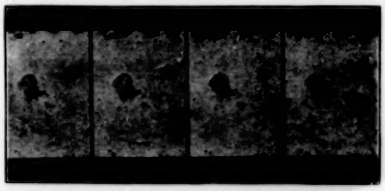


Fig. 18.—Ameba, magnification about 500 diameters.

The next picture (Fig. 8), at from forty-four to forty-eight hours, shows the heart in the irregular S-shaped stage. The heart at this stage of its development may be seen forcing the blood through its lumen, not as a continuous but as an interrupted stream, the interruptions being synchronous with the contractions of the heart.

The first of Series 2 (Fig. 9) shows a well-marked primitive circulation in the area pellucida as well as the passage of blood through the heart, followed by two moderately low-power pictures (Figs. 10 and 11) of a primitive circulation as found in the area pellucida of a chick embryo of from forty-eight to fifty hours.

The third (Fig. 12) is a somewhat higher-power picture of the primitive circulation taken from the same general region, showing the blood-stream with the individual blood-cells more clearly defined.

The final pictures (Fig. 13) of this group are of the circulation as seen in the bladder of a frog, and show at the same time the peristaltic wave of the unstriped muscle.

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In Series 3 is shown, first (Fig. 14) the outgrowth of connective-tissue cells in a culture made from the heart of an embryo chick. This is followed by mesenchymal cells, the activity of which is shown (Figs. 15 and 16) by the output of pseudopods, clearly seen in the first two sets of pictures. In the fourth group (Fig. 17), in addition to the pseudopod formation, there is a marked streaming of granules within the protoplasm. The final picture (Fig. 18) is that of an ameba, and is included in this group on account of the similarity of its movements to those of the mesenchymal cell.

250 West One Hundred and Seventh Street.—131 East Sixty-Sixth Street.

NEUROMA CUTIS (DOLOROSUM) *

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CINCINNATI

Cutaneous neuromas are either exceedingly rare or they have escaped proper recognition and enumeration in a field of specialized medicine preeminent for scrutinous detail and range of investigation. It is noteworthy that every structure of the skin save nerve-tissue has played an important and versatile rôle in the pathology and histogenesis of skin affections. The epidermis and its various layers, hair and its follicles, sweat-glands and ducts, oil-glands, lymph-vessels and blood-vessels, connective and elastic tissue, fat and unstriped muscle fiber have frequently been the seat of reduplication and structural activity, and each has often been accorded much significance and importance in the histogenesis of the host of cutaneous diseases. Nerve tissue, notwithstanding its important and versatile functions, its rich and wide distribution and its well-recognized changes in other localities, alone has escaped important notice, as evidenced by only two well-defined cases of cutaneous neuromas thus far recorded in the literature.

A neuroma cutis implies some form of new growth in the skin, multiple or single, variously sized, situated intimately in the skin, and containing new nerve elements. An important clinical feature in the cases thus far described is that they are the seat of very severe paroxysmal pain, of both spontaneous and secondary character. All subcutaneous nodules, whether painful or painless, springing from amputated nerves or what not, the so-called false neuroma of Virchow, and the subcutaneous nodules of Wood, together with the so-called "neurofibromas" of Recklinghausen, painless embryonic connective tissue new growths of the skin, accredited with springing from the medullated sheaths of subcutaneous nerves, are for obvious reasons not to be considered in an affection which deals with new nerve elements, in a new growth which has its origin, development and location in the true skin.

HISTORICAL

As already intimated, only two well-defined cases of neuroma cutis have thus far been reported in the literature.

Duhring, in 1873, reported a case of multiple neuromas, involving the left arm and shoulder, in a man aged 70. The affection began when the patient was 60 years of age, and the lesions increased steadily in numbers, until the affected areas were well covered. The lesions consisted of small, firm, split-pea-sized nodules, pinkish or bluish-red, and were firmly embedded in the skin. The overlying skin was somewhat scaly, but otherwise normal in appearance. For the first few years, the lesions did not cause any discomfort; soon after this they became the seat of very severe paroxysmal pain, of persistent excruciating and radiating character. These paroxysms were both spontaneous and induced, and were aggravated by unfavorable external influences. The color of the lesions was more livid during the seizures.

Kosinski, in 1874, reported a similar case, of sixteen years' duration in a male aged 30. The lesions, which numbered almost a hundred, were situated over the right thigh and buttock, and were extremely sensitive to touch and pressure. Both cases conformed in histologic structure to Virchow's description of amyelinic neuroma. The tumor, in Duhring's case, consisted of fibroconnective tissue and medullated and non-medullated nerve-fibers. Unstriped and striped muscular tissue was nowhere in evidence. Kosinski's case also showed

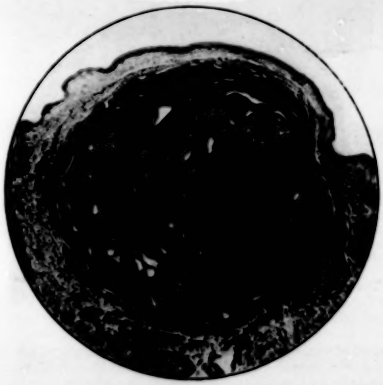

Fig. 1.—Neuroma cutis (low magnification). Irregularly round tumor mass of deeply stained convoluted tissue, containing numerous lymph-spaces and vascular spaces. Situated in the true skin just below the epidermis. Overlying papillae obliterated by distention atrophy. Entire absence of all glandular and special structures.

chiefly fibroconnective tissue and non-medullated fibers. Resection of the brachial plexus in the one, and the small sciatic nerve in the other, resulted in prompt relief from pain and gradual subsidence of the lesions. The symptoms relapsed in six months in Duhring's case, and the pain and discomfort, up to the patient's death, six and one half years after the operation, became as severe as ever.

REPORT OF CASE

History.—J. F., saloon-keeper, aged 50 years, presented himself Jan. 31, 1913, with a small purplish-red nodule, somewhat larger than a split pea, situated on the anterior aspect, toward the inner side of the right thigh, 4 inches above the knee. It began twenty-five years before, following a slight injury, when the skin was caught between the staves of a sugar-barrel, which the patient lifted from a wagon. The lesion, which has undergone little material change in size for the past twenty or more years, caused the patient little discomfort, in the beginning. It soon became the seat of severe paroxysmal pain, of both spontaneous and induced character,

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

of constant increasing intensity. It has become so sensitive in recent years, that slight pressure, notwithstanding that the patient is an unusually robust and strongly developed individual, measuring 6 feet in height and weighing over 200 pounds, almost induces syncope. Pressure and slight irritation from the trouser leg is almost unendurable. The pain is of a sharp, lancinating, excruciating character, and radiates up and down the thigh toward the genitocrural region and the knee. The paroxysms are often spontaneous, and are easily induced by even moderate indulgence in alcohol. The lesion bore such a striking clinical resemblance to that of a case of myomata cutis in my own experience, that this diagnosis was firmly entertained until a biopsy was completed.

Fig. 2.—Moderate magnification. Border of growth showing convoluted structure and fibrous capsule. Cells arranged in irregular rows of several layers' thickness and in thickly proliferated masses.

The latter case, which I have already reported,[1] was that of J. R., a tailor aged 26 years, who presented himself with a small painful lesion above the left knee, which resulted from a fall from a bicycle nine years prior. The patient was thrown violently against a wagon, and sustained an ecchymosis with severe contusion, at the site of the present lesion. The central area took on a permanent bluish-red discoloration, and became the seat of severe excruciating pain of progressive character. The pain was of a lancinating, radiating character, often spontaneously paroxysmal, and easily induced by pressure or slight irritation. Pressure from the undergarments or trouser leg was at times intolerable. No diagnosis was entertained until the biopsy was completed. The microscope revealed a myoma cutis. Extirpation gave immediate and permanent relief.

Histologic Report.—The lesion, with a narrow border of normal tissue, was thoroughly excised to the subcutaneous fat, by means of an elliptical incision, and embedded in paraffin, sectioned serially and stained after the ordinary methods. A small portion was reserved for examination of nerve fibers. It is needless to state that I immediately sought the presence of unstriped muscular tissue. Not a vestige of involuntary muscular fiber was discernible in any of the sections.

Under low-power magnification, the growth was observed to consist of an irregularly round mass of deeply stained tissue, irregularly convoluted and containing numerous spaces which were easily recognized as vascular in character. The greater number of these were thick-walled veins; some were lymphatic spaces, with an extensive endothelial proliferation. A few small thick-walled arteries were interspersed. The mass rested in the true skin just below the epidermis, and extended well into the depths of the cutis, but was separated from the normal-appearing subcutaneous fat by a considerable mass of connective tissue. The pathologic area was surrounded on all sides by a narrow well-defined capsule of connective tissue. The overlying papillae were entirely obliterated, apparently from a distention atrophy, inasmuch as a small portion of the circumference of the tumor mass projected slightly above the level of the surrounding epidermis. Under stronger magnification, the tumor was observed to be made up almost entirely of small irregularly round or oval cells, with large, somewhat deeply stained nuclei arranged here and there in irregular rows with a thickness of several layers, but for the most part in thickly proliferated masses. The cells were indistinguishable and apparently identical with those which lined the large lymph-spaces and venous spaces. No other structures or specialized elements were discernible in the tumor mass except in the specially stained preparations which showed an abundant mesh-work of richly distributed non-medullated nerve-fibers, which ramified through the tumor mass in an arborescent manner. The epidermis was normal. The rete malpighii was of normal thickness and contained its well-defined layer of columnar cells, and was covered with a normal stratum granulosum lucidum and corneum. Hair, hair follicles, and sweat or sebaceous glands or ducts were not demonstrable in the cutis or epidermis, either above or below, or in proximity to the growth. The cells in the pathologic area did not preserve the even, diffuse distribution of an ordinary lymphoma, but conformed more to that of a lymphangioma or rather an endothelioma. The pathologic diagnosis was that of a neuro-endothelioma of amyelinic type and conformed very closely in its histologic character to the amyelinic neuroma described by Virchow.

GENERAL DEDUCTIONS

Cutaneous neuromas bear a close and deceptive clinical resemblance to myoma cutis, and the microscope must be relied on to effect the differentiation. My own

Fig. 3.—Moderate magnification. Center of growth showing general cellular structure and masses of cellular tissue containing lymph-spaces and vascular spaces.

case of neuroma preserved the greatest possible resemblance in point of clinical appearance, chronicity, nature and character of onset, development and symptomatology, to my previously reported case of myoma cutis. When the microscope failed to reveal the presence of involuntary muscular fibers, I was momentarily bewildered.

Fourteen cases of well-defined myoma cutis have thus far been recorded in the literature. Pain, of a severe lancinating character, spontaneously paroxysmal or easily

1. Heidingsfeld, M. L.: Myomata Cutis, THE JOURNAL A. M. A., Feb. 16, 1907, p. 562.

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induced, was associated in nine of the cases, and was absent in the remaining five. In some of the cases nerve abnormalities were noted, but in the vast majority no such observations were made, possibly because of technical omissions, in this special direction. Verneuil, for example, reports a dissecting-room case of myomata cutis in which nerve-fibers were present in such abundance that the diagnosis of neuroma could be entertained almost as well as that of myoma.

The diagnosis of myoma must be considered well taken if there has been a preponderating proliferation of well-defined involuntary muscular fiber; but this in and of itself fails to explain why slightly less than two-thirds of the cases present clinical characteristics in the form of severe paroxysmal pain, spontaneous or easily induced in character, whereas slightly more than a third of the cases are free from all special symptoms. It also fails to explain why some of the cases show an abnormal proliferation of nerve elements, and others no special change. The explanation that the pain is due to mechanical pressure of the growth on the surrounding nerve endings, scarcely suffices; otherwise all growths in the cutis would give rise to similar symptoms.

Fig. 4.—General structure of growth under strong magnification. Small, irregularly round, deeply stained cells with large nuclei surrounding lymph-spaces and vascular spaces.

The pathologic proliferation of involuntary muscular fiber in the true skin is unquestionably noteworthy. I am of the opinion, however, that it is not an incident of very exceptional character. I have observed, for instance, marked proliferation of involuntary arrectores pilorum in some of the chronic dermatoses which are attended with persistent creepy and chilly sensations, notably pityriasis rubra pilaris. It is evident that this tissue can readily undergo a very material compensatory hypertrophy under abnormal stimulation, and its hypertrophic presence can readily be considered an effect rather than a cause. If this is true, no cutaneous abnormality would, in all probability, be more conducive to involuntary muscular fiber proliferation than a neuroma, with its attendant intolerant paroxysmal attacks. It is therefore obvious that some of the cases of myomas can, on clinical as well as on pathologic grounds, be considered to be neuromas rather than myomas. Unassociated myoma in my case can probably be attributed to apparent primary absence of all specialized structures, hair, follicles, glands, etc., as well as involuntary muscular fiber. At all events, all excessively, persistently painful lesions of the skin, in which the pain is of a severe, lancinating, spontaneously paroxysmal or easily induced character, warrant a careful technical examination of nerve fibers, and their abnormal presence justifies, in my opinion, irrespective of other findings, the diagnosis of neuroma cutis. The cases doubtless justify further differentiation, in the form of neuromyoma, neuro-endothelioma or neurolymphangioma, in conformity to the preponderating hypertrophy of the associated pathologic tissue.

CONCLUSIONS

Neuroma cutis is a well-defined clinical and pathologic entity. Its relative infrequency is more illusive than real. Its failure to receive proper recognition and enumeration is doubtless due in large measure to technical omissions. There are good grounds for believing that well-defined cases of neuroma have been accorded classification with other affections of the skin. Every chronic lesion of the skin attended with severe paroxysmal pain, of spontaneous or easily induced type, should be carefully examined for nerve abnormalities and accorded recognition in conformity to the clinical and histologic findings, irrespective of other pathologic changes.

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THE NEWER CUTANEOUS MYCOSES*

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The investigation of various fungi, called by French writers *les champignons parasites*, offers one of the most inviting fields of medical research. The rapid increase in the number of cutaneous lesions traced to fungous origin inevitably brings the dermatologist face to face with problems in mycology which clinicians have been accustomed to relegate to the botanist. While the science of bacteriology has developed rapidly as a branch belonging particularly to medicine, the study of true fungi has been generally considered as something of merely academic interest. Medical mycology has been lagging behind. Our schools give it scant notice and American literature deals with it only to the extent of detached case reports. So sparse, in fact, is our literature on the general subject of pathogenic fungi that I could not find a single complete description of the common thrush organism in more than a score of American text-books consulted for the purpose. It seems certain that if our knowledge of mycology is to progress as it deserves it must be through the same cooperation of clinician and laboratory worker that has made possible the notable advance in bacteriology.

Of course all bacteria are fungi though of a special order, differing from the so-called true fungi in their direct reproduction by fission; but there has always been a tendency to separate the true fungous diseases from those caused by bacteria. Recently, however, such striking resemblances have been shown as to make the distinction seem wholly artificial. Many diseases due to fungi closely simulate bacterial diseases. The mode of action of pathogenic fungi is identical with that of bacteria, namely, by toxins, which has been shown by numerous observers. Serologic reactions have been

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found in fungous diseases quite comparable to those of bacterial infections. Likewise facts relating to immunity in mycoses have been shown to be exactly analogous to those of bacterial disease. These are reasons for bringing the two classes of organisms into closer union rather than considering them as opposites.

The purpose of this paper is to emphasize the need for a wider knowledge of the pathogenic fungi as well as to recapitulate some of the available facts concerning the more recently described mycoses with which dermatologists may have to deal.

For even a brief survey of these conditions some preliminary consideration must be given the general classification of fungi in order to appreciate their relationship to one another. This question may be approached from several distinct points of view. The purely botanic classification would seem most precise in that it arranges various units into groups or families based on genealogic affinities. The classification on a simple morphologic basis, as the grouping of bacteria under such titles as bacilli, cocci, etc., will not suffice. The division of fungi into groups according to the pathologic processes they cause may be of practical value to the clinician. Bodin,[1] first arranging fungi as far as possible in groups according to their relationship, would thereafter adopt an admittedly artificial classification according as the lesions they cause in man are strictly cutaneous or capable of becoming generalized within the body.

Up to a certain point our classification must rest on a sheer botanic basis. The exact place of fungi in the plant world is seen by constructing a table beginning with the thallophyta, which differ from the other fundamental forms of plant life in that they show no differentiation into distinct parts as root, stem and leaf.

The group of thallophyta presents three subgroups:

1. Schizophyta, or fission plants.
   (*a*) Schizophycae: chlorophyll present.
   (*b*) Schizomycetes or bacteria: chlorophyll absent.
2. Algae.
3. Fungi.

Fungi are divided into two subgroups:

1. Myxomycetes: devoid of sheath and parasitic only to vegetable life.
2. Eumycetes: having a cellulose sheath and parasitic to man and animal.

Eumycetes, then, are the fungi with which we are concerned in this discussion. They are divided according to their modes of reproduction into four groups:

1. Oomycetes: egg-producers.
2. Ascomycetes: fruiting by asci.
3. Basidiomycetes: forming basidia.
4. *Fungi imperfecti:* mode of reproduction yet unknown.

Fungi imperfecti constitute a much-discussed group in mycology. One view is that they are fungi which were formerly superior or perfect but which have become inferior or imperfect. In other words, they have lost their superior form of reproduction, the ascus, and have retained their lower form, the conidium. Another conception is that they are primitive forms which are offshoots of other fungi of more complicated forms.

It will be noted that this classification makes no mention of the terms "yeasts" and "molds." In a general sense fungi which reproduce by budding are called yeasts, while those which fructify by spore-formation are termed molds.

The true yeasts are fungi that reproduce vegetatively by budding and that form ascospores under certain conditions. Some fungi that morphologically are yeasts and reproduce by budding do not form ascospores. Some also resembling yeasts morphologically produce disease, and their exact botanic position is uncertain. They are termed "pseudoyeasts," "torulae" or "mycodermae," and are grouped among the *fungi imperfecti.*

While the yeasts are unicellular the molds are multicellular. It is difficult to define molds. The systematic botanist does not recognize any such group. Considered collectively, however, they present certain superficial resemblances. They all possess a plant body made up of hyphae. They do not form a specific class of fungi, for they include members of each of the four chief groups of fungi. The term "hyphomycetes" is often used to cover this group.

Under the title of newer cutaneous mycoses may be included those skin diseases the specific fungus of which is of relatively recent discovery. Some of these, as is well known, are not limited to the skin but become more or less generalized. It is not within the scope of this paper to discuss all of these dermatomycoses exhaustively. The intention is rather to mention certain aspects of each with the view of emphasizing the importance of their recognition.

Fig. 1.—Granuloma coccidioides.

The diseases selected for special mention are trichomycosis of Castellani, blastomycetic dermatitis, granuloma coccidioides, sporotrichosis, oidiomycosis and hemisporosis. New light recently shed on the subject of eczema marginatum and the group including actinomycosis, mycetoma, etc., brings these affections also within the range of this discussion.

Trichomycosis is the name applied by Castellani to an affection of the hair of the axilla which he has often observed in the hot, damp districts of Ceylon. The disease consists of soft formations, yellow, black or red, and easily removed by scraping with a triangular needle or similar instrument. The yellow variety is due to a bacillus-like fungus, probably a streptothrix or one of the microsporoides. The pigmentation in the black and red varieties is caused by coccus-like organisms which grow in symbiosis with the streptothrix-like fungus.

What was described in 1860 by Hebra as eczema marginatum was subsequently considered of parasitic nature and was called inguinal trichophytosis until Sabouraud in 1907 described the parasite as an epidermophyton and showed it to be entirely distinct from the trichophytons. The clinical aspects are well known. The

1. Bodin: Les champignons parasites de l'homme.

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sharp outline with somewhat elevated border and the tendency to central resolution with peripheral extension give it the trichophytoid appearance which accounts for the earlier mistake concerning its cause.

Aside from the common type, Sabouraud describes two others which are rare. The non-circumscribed erythematous type is red throughout, though in its later stages showing a tendency to heal in the center. The eczematoid type, however, observed in only one case of a considerable epidemic, showed a marked inflammatory aspect and an elevation of the entire lesion. This type was regarded as corresponding to the compound of eczema and trichophytosis described by English authors.

In 1910 Sabouraud[2] recognized in certain so-called eczemas of the fingers and toes other lesions due to the same organism. What would now appear to be the appropriate name for the condition is epidermophytosis with the proper adjective to denote the region involved if such qualification is deemed necessary.

The discovery of a specific organism capable of evoking a reaction which passes for an eczema is an event of importance. The question of micro-organisms in eczema, whether primary or secondary, whether fungous or bacterial, is probably by no means definitely settled.

The differential diagnosis of interdigital epidermophytosis and true eczema is made by the exclusive local-

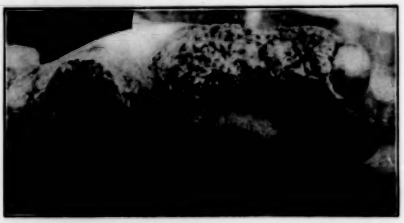

Fig. 2.—Blastomycetic dermatitis (courtesy of Dr. E. C. Dickson).

ization in the interdigital spaces, the callous inferior border of the lesion, the fine vesiculation of the adjacent skin, the absence of eczematous patches elsewhere, and the presence or antecedent history of inguinal epidermophytosis.

Cultures of the epidermophyton are made with some difficulty. The cold culture on glucose, gelatin-peptone gives a yellow growth in three weeks.

In connection with the treatment of the affection with an ointment containing 1 per cent. of chrysarobin, Sabouraud emphasizes two pertinent facts relative to the use of this drug. The first is that chrysarobin is soluble in neither petrolatum nor lanolin, though it does dissolve in lard. He therefore prescribes it in lard with directions that it be prepared hot and stirred until cool. The other point is to avoid soap in removing chrysarobin, as the action of an alkali is to increase its penetration. The removal of chrysarobin ointment, therefore, should be effected by the use of oil or lard.

The subject of sporotrichosis brings up the question of identity among several organisms. The importance of the disease makes it worth our while to review briefly certain points in its history.

Many saprophytic forms of sporotrichium have been known for a long time. The discovery of pathogenic forms is of comparatively recent date. Sporotrichosis was first described by Schenck,[3] and Hektoen and Perkins,[4] in 1898 and 1900, respectively. The two cases were considered identical and the organism was named sporothrix of Schenck. Matruchot and Ramond, without knowing of these cases, described a variety cultivated in Paris by de Beurmann and Ramond, and named it *Sporotrichium beurmanni*.

De Beurmann and Gougerot compared these two parasites in 1906 on the basis of the text of American descriptions and the accompanying illustrations, as well as specimens which Hektoen had sent them as typical of the sporothrix of Schenck. Between these two organisms they found differences in development, cultural appearances and biologic characters, differences sufficiently marked to justify considering them as distinct. In the years 1909 and 1910 quite a series of new cases was reported in the United States by various authors. In all accounts the parasite was called the sporothrix of Schenck.

Shortly before the publication of their book on Sporotrichosis in 1912, de Beurmann and Gougerot[5] had the opportunity of comparing cultures of recent American cases taken to them by Davis with those of the *Sporotrichium beurmanni*. As a result of this comparison they concluded that the Davis cultures are, if not identical with those of de Beurmann, at least the connecting links between the *Sporothrix schenckii* first sent to them from the early American cases and the *Sporotrichium beurmanni*.

They consider that in the circumstances three interpretations are possible:

1. The first American specimens of the *Sporothrix schenckii* represent the true type of this organism, in which case the *S. schenckii* and *S. beurmanni* are closely related but different organisms.

2. The *S. schenckii* and the *S. beurmanni* are derived from a common stock but differ to-day though related by numerous intermediaries as the specimens of Hyde and Davis.[6]

3. The original specimens of *S. schenckii* sent to de Beurmann represent a fixed and irreducible pleomorphism of the *S. schenckii*, differing from the original Schenck and the original Hektoen cultures. The *S. schenckii* is not to be judged by the first specimens. The true *S. schenckii* is represented by the Hyde-Davis type. In this case, since the de Beurmann form is practically like the Hyde-Davis form, the *S. schenckii* and the *S. beurmanni* are identical.

The practical importance of this question lies in the fact that cultural appearances play an important part in the recognition of sporotrichosis. A point much to be emphasized is the necessity of using a standard medium. On the so-called *milieu d'épreuve* of Sabouraud the sporothrix gives a definite appearance. One who gets his impressions of cultural appearances from de Beurmann and Gougerot's description would not recognize the cultures of early American cases as growths of the same organism, the one being nearly black while the other is nearly white.

Microscopically the differences are not marked between the two forms, though the short oblong forms seen in

2. Sabouraud: Les Teignes; Sur l'existence fréquente d'un soi-disant eczéma des doigts et des orteils, dû à l'epidermophyton inguinale, Ann. de dermat. et de syph., June, 1910.

3. Schenck: Refractory Subcutaneous Abscesses Caused by a Fungus Possibly Related to the Sporotrichia, Bull. Johns Hopkins Hosp., 1898, p. 281.

4. Hektoen and Perkins: Refractory Subcutaneous Abscess Caused by Sporothrix schenckii, Jour. Exper. Med., 1900, p. 77.

5. De Beurmann and Gougerot: Les nouvelles mycoses; les sporotrichoses.

6. Hyde and Davis: Sporotrichosis in Man, Jour. Cutan. Dis., July, 1910.

specimens made directly from secretions are to be considered as short mycelial forms rather than spores as some have described them.

Other pathogenic forms of sporotrichium have been reported, notably *Sporotrichium dori*, 1906; *S. gougeroti*, 1907; *S. asteroides* (Splendore), 1908; *S. indicum* (Castellani), 1908, and *S. jeanselmi*, 1910.

All of these are apparently in very close relation with the *S. schenckii* except the *S. dori*, which seems to show marked differences both clinically and in culture. The sole case of this form was reported by Dor in 1906. No parasite was demonstrated in smears, but cultures showed fine mycelium which branched dichotomously, as well as zoogloea masses from which filaments radiated. These zoogloea masses seemed to Dor to be made up of fragments of mycelium rather than spores. Cultures grew rapidly. The colonies reached their height in three days, remained isolated, were dull grayish, without aureole and scarcely elevated at all. At the end of a month they assumed a brownish tint but never became black in any portion. Clinically this one case was evidenced by large, multiple abscesses and was termed subacute. Guinea-pigs and rabbits were inoculated both with the secretion and with cultures, negative results being obtained in each instance.

The usual forms of sporotrichosis show either localized or disseminated lesions. It must be remembered that the disease involves lymphatics, mucous membranes, eyes, ears, joints, muscles and viscera as well as the skin. The cutaneous lesions are too well known to bear repetition. Their resemblance to the lesions of syphilis, tuberculosis and glanders makes their recognition of extreme importance. The occurrence of sporotrichosis in animals has been shown by Hyde and Davis, de Beurmann and Gougerot and others.

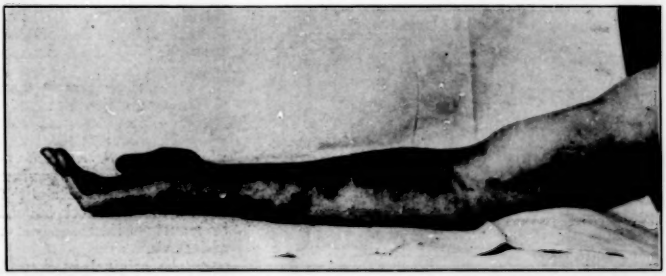

Fig. 3.—Sporotrichosis (Courtesy of Dr. John Armstrong).

In a botanic classification the sporothrix belongs with the *fungi imperfecti*.

Another mycologic subject about which much confusion has gathered is the relation between blastomycetic dermatitis and granuloma coccidioides of California writers. Do they represent different aspects of the same affection varying because of differences in environment, or do they stand for two distinct though related diseases? Should they be separated or classed together?

First of all, what do we mean by blastomyces? There are no less than three distinct views concerning blastomycetes. The first defines them strictly in accordance with etymologic signification, namely, budding fungi or yeasts. According to Vuillemin a blastomyces is any fungus which appears at a given time under the form of budding globules, whatever its relationship and whatever aspects it may reveal at other periods of its existence. Such a view would bring within the category of blastomycetes the organism of blastomycetic dermatitis as well as the yeasts of cancers, of rabies and of variola. The second view limits the term to the saccharomyces. The third reserves the name for fungi as yet unclassified.

De Beurmann and Gougerot dispose of all the formerly considered blastomycetes by grouping as exascoses the mycoses due to the saccharomycetes, the zymonemata and the endomycetes. Blastomycetes in their scheme represent simply the residue which is not amenable to classification. The zymonemata are so named because they exhibit at the same time both yeast and filamentous forms. In this group they would include both blastomycetic dermatitis and coccidioidal granuloma.

In making these two diseases identical they are simply following the custom of numerous other writers. It is a noteworthy fact, however, that granuloma coccidioides has occurred practically exclusively in California, where about twenty cases have been reported. Those who have followed these cases are, so far as I know, unanimous in the opinion that however close may be the relationship between their respective organisms, there yet remain sufficiently well-marked points of differentiation to make of each one a distinct entity. Clinically, as indicated by Hektoen, the nodules in the California disease bear a closer resemblance to the typical specific tubercle than do the nodules of blastomycetic dermatitis. There is, furthermore, a marked tendency toward the involvement of lymph-nodes in coccidioidal granuloma, while in blastomycosis this is slight. Blastomycosis also presents usually its primary focus in the skin with but slight tendency to become generalized, while in coccidioidal granuloma, though the disease may originate in the skin, there is most often generalization.

Microscopic appearances differ, according to Ophüls,[7] in that the blastomyces multiplies by budding while the coccidioidal organism multiples by endogenous sporulation. The latter is moreover a much larger body, attaining a size two or three times that of the blastomyces. In coccidioidal infection there is an absence of budding forms during its development in the tissues, though these forms are seen in blastomycetic dermatitis. There are also certain differences on artificial culture mediums. A further mark of differentiation sometimes urged is that blastomycetic dermatitis responds to the administration of the iodids, while coccidioidal granuloma resists them. A case of the latter recently under my care tends to deny this point.

This was the case of a man aged 28 who had lived for over two years in the San Joaquin Valley, the district in which most of these cases have originated. By occupation he was a machinist. The family history showed that an aunt on the maternal side had died of

7. Ophüls, W.: Jour. Exper. Med., vi, 443; Coccidioidal Granuloma, THE JOURNAL A. M. A., Oct. 28, 1905, p. 1291.

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tuberculosis. The previous cutaneous history was negative. The previous general health had been good except for some cough and loss of weight for several months past. Dr. H. S. Warren of Coalinga, who referred the case, had found tubercle bacilli in the sputum.

The lesion, which began as a pimple on the left side of the nose in August, 1912, had, when I first saw it two months later, attained a size of 3 cm. in diameter, extending to the upper lip. It was circular and elevated above the surrounding skin approximately 5 mm. In color it was violaceous and in consistence boggy. It was apparently made up of an agglomeration of papules. Scattered throughout the surface were numerous minute, superficial pustules. Subjectively it was painful, tender and intolerant of any save the blandest applications. There was no evidence of scar tissue; neither was there any sign of tendency to spontaneous repair. There was no suggestion of any verrucous element. The submaxillary lymph-node on the corresponding side was markedly enlarged.

Smears from the pustules showed doubly contoured cells which I considered blastomycetes. Dr. Ophüls, of whom I sought confirmation, identified them as coccidioidal fungi. Careful examination of the sputum revealed tubercle bacilli but no fungi. The cutaneous lesions as well as the enlarged lymph-node showed marked improvement under the administration of potassium iodid, but what was clinically a laryngeal tuberculosis quickly followed the pulmonary condition and the patient died within a few months of the first observation. Unfortunately a post-mortem was impossible.

Oidiomycosis is a term applied to a fungous disease of which only two cases have been reported: the first by Babès in 1882 as dermatomycosis discoidea exulcerans caused by the *Oidium subtile cutis*, and the second in 1910 by de Beurmann, Gougerot and Vaucher[8] due to the *Oidium cutaneum*. According to the latter observers the so-called *Oidium albicans* of thrush is not an oidium at all but belongs with the endomycetes; for the name oidiomycosis should be applied only to those affections due to the oidium defined by Linck as showing "rampant, septate mycelium of isolated filaments; simple, erect, septate conidiophores dividing into oval or cylindrical chain-like conidia."

The clinical aspect of oidiomycosis is that of an ulcerating gummatous nodule which resembles blastomycetic dermatitis, syphilis or sporotrichosis. The diagnosis is best made from cultures. On Sabouraud's medium, de Beurmann and Gougerot's case showed macroscopically the viscous glistening veil of yeasts. Microscopically they presented exclusively round, budding forms. Biologically they caused fermentation of glucose into alcohol and carbonic dioxid. From the first cultures the observers thought of saccharomyces of Busse-Buschke; later, in subcultures the colonies became godrooned or fluted, yellowish-white and resistant. Filamentous forms were added to the yeast-cells which suggested blastomycetic dermatitis. Finally subsequent transformations of the same parasite showed it fixed under exclusively filamentous forms, with all the characters of the genus oidium of Linck. Macroscopically the cultures were godrooned and even downy on potato; microscopically the oidium form was without mixture of yeast forms; biologically glucose was no longer attacked.

The *Oidium cutis* of Babès gave ulcerations of the skin of a rabbit and the *Oidium cutaneum*, though slightly virulent, is pathogenic for rats.

The prognosis is good and the disease yields to iodids as sporotrichosis and other mycoses.

The study of the oidium shows an organism exhibiting itself first as a yeast or blastomyces, then as one of the zymonemata of de Beurmann and Gougerot; that is, an organism showing both yeast and mycelial forms, and finally in the exclusively filamentous forms of the true oidia. It illustrates the transitions possible between the different genera of the same family. According to Gougerot it emphasizes the fact that a yeast form may be only a degraded aspect of a mycelial parasite of the genus oidium, and that the budding yeast aspect is only a non-specific morphologic aspect common to very different parasites.

If the characteristics of the mycelium as set forth by Linck are the sole criteria by which the true oidiomycoses are to be judged, then it would seem as if the organism of granuloma coccidioides was correctly named originally by Ricketts[9] when he applied to it the designation of *Oidium coccidioides*. In this case granuloma coccidioides would properly belong with the group of oidiomycoses. As we have seen there are similar though distinct forms of sporotrichosis, and also there are marked resemblances between blastomycetic dermatitis and granuloma coccidioides. The same sort of analogy exists between actinomycosis and mycetoma or Madura foot. There has been much discussion as to the relation between the organisms of the two diseases last named, the majority of writers favoring the view that each one has its own special organism, although admitting close relationship. Recent research according to Gougerot shows that these clinical units result from multiple parasites.

Mycetoma, which was first described over two hundred years ago, was first reported in America less than twenty years ago. Sutton has recently reported from Kansas City two cases of this mycosis which makes a total of seven American cases.

Hemisporosis, due to the *Hemispora stellata*, was first described by Gougerot and Caraven in 1908; the case being a primary osteitis of the tibia simulating syphilitic periostitis or post-typhoid osteomyelitis. Two subsequent cases have been reported, one resembling a tuberculous gumma, the other a syphilitic nodule.

The consideration of the ever-increasing list of mycosic disease leads to the opinion that many new forms are yet to be revealed. Presumably many of the known forms constantly escape recognition.

One who becomes interested in the group will not fail to be struck with the necessity of a clearer classification or even the general adoption of any classification. There seems to me urgent need for dermatologists to undertake more comprehensive work along the line of cutaneous mycology.

The clinical lesson is that any subcutaneous nodule or refractory abscess about whose etiology there is the slightest uncertainty should be subjected to careful investigation to determine the presence or absence of pathogenic fungi. To avoid discrepancies of description, a standard culture-medium should be employed.[10]

8. De Beurmann, Gougerot, H., and Vaucher, R.: Oidiomycose gommeuse ulcéreuse disséminée, Rev. de méd., December, 1910.

9. Ricketts, H. T.: Philadelphia Med. Jour., April 27, 1901.

10. In addition to the references already given, the following will be found of interest:
Castellani: Brit Jour. of Derm., November, 1911.
Brown, Philip King: Coccidioidal Granuloma, THE JOURNAL A. M. A., March 2, 1907, p. 743.
Gougerot: Gaz. des hôp., Jan. 5, 1913.
Hektoen: Systemic Blastomycosis and Coccidioidal Granuloma, THE JOURNAL A. M. A., Sept. 28, 1907, p. 1071.
Montgomery, F. H.: Cutaneous Blastomycosis, THE JOURNAL A. M. A., June 7, 1902, p. 1486.
Sutton: Mycetoma in America, THE JOURNAL A. M. A., May 3, 1913, p. 1339.
Weis: Jour. Med. Research, vol. vii, No. 3.

I wish to express my indebtedness to Dr. Ernst A. Victors of San Francisco for many slides and cultures used in the preparation of this article. I am further indebted to Dr. E. C. Dickson of the Leland Stanford Junior University for a culture of blastomycosis.

240 Stockton Street.

ABSTRACT OF DISCUSSION

DR. RICHARD L. SUTTON, Kansas City, Mo.: The question of group classification of the various pathogenic fungi is an exceedingly interesting one, but of more theoretic than practical importance. Sporotrichosis is a comparatively common disease in the Middle West. I have seen almost a score of cases and have heard of as many more unreported instances. From the results of a bacteriologic study of the organisms recovered from the lesions in four characteristic examples of the malady, I am forced to confess that I can find no essential differences between the organism originally described by Schenck and Smith and the so-called *Sporotrichium de Beurmannia* of Gougerot. In studying fungi, even more than in studying the ordinary pus organisms, slight cultural and tinctorial differences are frequently noted, just as slightly diverse clinical manifestations usually follow infection from various strains of staphylococci. While these slight differences mean little to the majority of bacteriologists, they may form ample material for theoretical controversy. Consequently, I agree with Page, Frothingham, Lutz and Splendore and other observers that up to the present time the *Sporotrichium schenckii* (including all of the various strains, of course) is the one and only cause of sporotrichosis. The fact that the disease may be local or general, trivial or fatal, means but little from an etiologic point of view. The existence of several clinical types of blastomycosis hardly warrants our separating the organism into forty-seven different varieties and appending to each a different name.

Mycetoma is an exceedingly rare affection in this country. In all the reported cases the infecting organism has been of the yellow variety. A beautiful example of this disease was recently reported by Allison of Texas (*Texas State Jour. Med.*, October, 1912, p. 166), which I unfortunately overlooked in a statistical study of the condition in America published a few weeks ago. The fact that the causative organism apparently possesses an affinity for the tendons and tendon sheaths may account for the frequency with which the foot is attacked and may prove of value from a bacteriologic point of view.

For several years I have been of the opinion that granuloma coccidioides was an aberrant type of blastomycotic infection. Recent studies have shown that environment will account for many slight clinical, pathologic and bacteriologic differences, even in so thoroughly understood a disease as lues (I of course refer to gangosa); consequently, it is difficult for me to forego the opinion.

DR. H. E. MENAGE, New Orleans: In a case at the Charité Hospital in New Orleans about six months ago, we believed that we found an organism identical with that of de Beurmann.

DR. A. RAVOGLI, Cincinnati: In the course of my private and hospital practice I have seen perhaps nine or ten cases of blastomycosis, and at the present time I have under my care two cases of sporotrichosis. I did not make this diagnosis without seeing the parasite under the microscope and getting a culture. My recent cases were of the tuberculoid type. The parasite has peculiar oval spores that make it easily recognized. I regard sporotrichosis as a much more stubborn affection than blastomycosis, as I have seen several patients with the latter recover, which so far I cannot say of sporotrichosis. Potassium iodid does these patients no good. I have obtained my best results from liquor formaldehydi and liquor cresolis compositus, mixed together. The application of this strong solution burns the surface of the patch and produces a necrotic eschar which sloughs off and leaves a clean healing surface. I give potassium iodid in these cases, but more as a matter of custom than because I think that it helps the patient.

DR. ERNEST DWIGHT CHIPMAN, San Francisco: The point which I should like to add and emphasize is that to us in California there is a distinct difference between blastomycosis and granuloma coccidioides. The latter affection is almost always apt to become generalized and extremely virulent and rapid in its course. Many of these mycotic diseases are grave if unrecognized, and the point is to make an early, thorough and complete bacteriologic examination. The taking of cultures should be insisted on in all doubtful cases. I think we should have a standard culture medium, such as the glucose-gelatin-peptone medium. If we all use a similar standard culture medium, our results will be more apt to be similar.

DR. DAVID LIEBERTHAL, Chicago: Before this discussion is closed, I wish to mention that Petersen of St. Petersburg (*Archiv für Dermatologie*, 1911) calls attention to the fact that the growth of the blastomyces is inhibited at a temperature of 40 C. He therefore treated blastomycosis of the skin by applying heat of higher degrees and accomplished excellent results.

TURPENTINE POISONING PRODUCING A SCARLATINOID RASH

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PHILADELPHIA

As I have been unable to find any mention, in any of the standard books of reference or in the current medical literature, of a rash appearing in turpentine poisoning, the following case is reported:

History.—E. E., a white girl, aged 20, single, a mill operative, applied for treatment in the medical dispensary of the Germantown Hospital, March 31, 1913. She complained of a bright red, itchy rash covering the face, neck, arms, forearms and trunk. No rash was seen below the waist-line.

Family history was negative. The patient had measles at 7 and scarlet fever at 8; the history was otherwise negative. Because the menses did not appear when due, the patient took 25 minims and twenty-four hours later 30 minims of spirits of turpentine. The next day her face began to swell, her body felt hot and itchy and she noticed the rash. The next day, seventy-two hours after the initial dose of turpentine, she applied for treatment.

Examination.—The lungs and abdominal organs presented nothing abnormal. The heart was in a state of slight tachycardia but otherwise normal. There was no enlargement of the lymph-nodes. The face was generally red and swollen, showing marked edema beneath the eyes. There were two small patches of vesicles, one on the forehead between the eyebrows and the other beneath the lower lip. The rash, which resembled that seen in scarlatina, fading on pressure, reappearing and again fading, extended over the face, arms, forearms and trunk (both anteriorly and posteriorly) to the waist-line. There was no fever, but the skin felt warm on palpation. The throat showed no congestion or membrane. The tongue was clean and showed no abnormal redness or prominent papillae.

On questioning, the patient stated that she was passing less urine than normally but that it did not look as though it contained blood. A specimen, obtained the next day, emitted a marked odor resembling that of violets. This specimen was lost, unfortunately, in transit to the laboratory.

April 4, 1913: Two days ago the rash and edema began to disappear, the vesicles drying up. There is seen, on close examination, a very fine desquamation over the entire rash.

April 7: The edema has disappeared. The rash is almost entirely gone. Urine: Normal odor, amber, acid, specific gravity 1.018, a trace of albumin, no sugar, no casts, sodium urate

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April 17: The rash is entirely gone. There are no signs of further desquamation. Urine: Amber, acid, specific gravity 1.023, a faint trace of albumin, no sugar, no casts.

DIFFERENTIAL DIAGNOSIS

Scarlatina.—The patient had no initial vomiting, no chill, no scarlet throat or tongue, no enlargement of the lymph-nodes, and no fever twenty-four hours after the rash appeared. There was no history of contact. The desquamation was much less for such a marked rash. There was a previous history of scarlet fever.

Varicella.—While I have seen chicken-pox with a scarlatiniform rash during my internship at the Municipal Hospital for Contagious Diseases (Philadelphia), this case showed no vesicles except those noted. Moreover, the rash in this case was more extensive and more pronounced than was that seen in the chicken-pox case.

Dermatitis Venenata.—This case occurred in the late winter. The rash was not vesicular except in the two small areas noted.

Endemic Typhus (Brill's Disease).—The patient had no headache, chill, fever, vomiting, sweat or redness of the throat. The rash was not morbiliform but was distinctly scarlatinoid.

SUMMARY

1. The patient presented a scarlatinoid rash in addition to the ordinary symptoms of turpentine poisoning, forty-eight hours after the ingestion of spirits of turpentine.
2. The toxic dose was very small—only 55 minims in twenty-four hours.
3. Desquamation began three days after the rash appeared.
4. The rash had to be distinguished from that of any of the diseases subject to quarantine.
5. There was no emmenagogue action of the turpentine.

5346 Wayne Avenue.

UNUSUAL BULLET WOUND OF FRONTAL SINUS

KENNETH BULKLEY, M.D., NEW YORK

Bullet wounds of the head may be divided into two main classes, those involving the face and those involving the cranium. The latter may again be divided into those which penetrate and those which do not penetrate both tables of the cranial vault. In the nonpenetrating lesions only slight damage is usually done, but bullet wounds penetrating both tables of the skull should invariably be considered as serious accidents, for the majority of these patients die either from brain injury or from infection of the brain or its meninges.

The following case seems of interest as well illustrating a number of important points. The patient, a young girl of 18, while examining an old pistol, was shot, the end of the weapon being about a foot from the face. She was momentarily stunned but did not lose consciousness, and half on hour later was admitted to the accident ward of the Presbyterian Hospital, where I first saw her.

Examination showed a hysterical girl, fully conscious and rational. The upper portion of the face was considerably blackened with powder but neither eyebrows nor hair was burned. About half an inch above the root of the nose and slightly to the left of the midline was a clearly made bullet wound. In the entire absence of any sign of intracranial injury it was decided that this should be immediately explored.

Exploration was done in less than one hour from the time of the accident. Under ether anesthesia the wound area was shaved and cleansed and a vertical incision 1¼ inches long was made over the wound. The point of entrance through the anterior wall of the frontal sinus was found and rongeured to a size sufficient to explore the sinus. In the posterior wall of the sinus was found a similar but somewhat larger opening, irregular, and with comminuted edges. Wedged in the broken fragments were numerous hairs. Lying in the center of this posterior opening and on the uninjured dura mater was found a flattened lead bullet of about .32 caliber. This, together with all loose bone fragments and hair, was removed, and the wound partially closed about a loose gauze drain.

Recovery was uneventful. The patient was kept in bed for a week and her case was treated as one of cerebral concussion. The wound was dressed with continuous saline wet dressings. Temperature never rose above 99 F., and the wound healed without suppuration. There were no signs of meningeal irritation.

The case is unusual chiefly because of the fact that both bony walls of the frontal sinus were completely penetrated, but the dura was uninjured. It is instructive in showing the good results obtained from immediate exploration of a bullet-wound not giving signs of intracranial injury, a wound which if treated expectantly would unquestionably have suppurated and would not have healed without removal of the foreign body.

112 West One Hundred and Tenth Street.

ERYTHEMA SCARLATINOIDES

LEON J. MENVILLE, M.D., HOUMA, LA.

I wish to report an interesting case of erythema scarlatinoides.

Mary C., aged 10, when 3 months old, was noticed by her mother to have a red rash covering the whole body, except the face, the tongue also being red. In a day or two there was a general desquamation with itching. A diagnosis of scarlet fever was made. The patient has had a yearly recurrence of the condition, which shows itself in the latter part of the spring.

I saw the patient for the first time in June, 1913. She was fairly developed and nourished. The heart, lungs and abdomen showed nothing abnormal. The liver was palpable 2 cm. below the costal border in the nipple line. The spleen was not palpable. The tongue was red, but the throat normal. She had a fever with a temperature of 100 F., with headache and a chilly feeling. Urine: specific gravity 1.020, acid in reaction, no sugar, albumin, acetone, and only a trace of indican. Blood examination revealed nothing abnormal. The body was covered with a red rash (resembling scarlet fever), from the neck down to the toes, the face being exempt. There was an intense itching. Twenty-four hours after there was a general desquamation, beginning on the chest, at which place the rash always makes its first appearance. The mother informs me that the attacks are becoming more severe each year, that is, the constitutional symptoms are. The patient has never had drug erythema.

Practices Leading to Commercialism in Medicine.—Competition, contract practice, splitting fees and advertising are some of the results of a degree of commercialism tolerated by the medical profession. An effort is being made here and there to suppress them, and we not infrequently hear the cry of "intolerance" from those who think their vested rights are being assailed. The commercial man masquerading in the profession, the medical faker and the newspaper man who profits from both are heard from immediately whenever an effort is made to put a stop to newspaper advertising. The "specialist" who lacks special ability and the general practitioner who lacks both professional ability and nerve to make legitimate charges unite in defending the practice of fee-splitting. They are all wrong; such practices have no place in the medical profession and should be eliminated, protest or no protest. It is to be hoped that our county societies will take the subject of medical ethics in hand, and with gentle firmness see to it that these abuses are corrected as speedily as is consistent with justice.—Editorial *Texas State Jour. Med.*

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SATURDAY, AUGUST 9, 1913

HEAT REGULATION IN FEVER

The prominent participation of the nervous system in the complex which we commonly designate as fever is undeniable. Whether it be the increased irritability of a heat-regulating center or some peripheral factor that is given chief emphasis in the genesis of the increase in temperature, there is almost always a heightened production rather than a diminished dissipation of heat somewhere which needs to be explained. This increased liberation of heat which attends the febrile processes is usually attributed to an augmented metabolism associated with increased innervation or stimulation of the muscles or other organs. Thus the nervous system is assumed directly to provoke the exaggerated transformation of energy.

If this point of view is correct then the exclusion of the nervous system, the omission or failure of the stimulation of the heat center, ought to result in a return to normal conditions of heat production in the tissues. Otherwise we must assume that they can be incited to exaggerated combustion by some means other than a purely nervous stimulus. The question is open to experimental solution. It is known that in certain forms of fever the increased heat production goes on solely at the expense of carbohydrates in the active tissues. In the isolated heart, for example, the continued maintenance of the rhythmic beat by the perfusion methods now in vogue in the laboratory is attended by a fairly uniform consumption of sugar which can be accurately measured. Mansfeld[1] has observed that if febrile processes are provoked by mechanical stimulation of the heat centers and the heart is then removed and perfused in comparison with hearts from non-febrile animals, a decided increase in the consumption of sugar may be noted. If this augmented metabolism of the heart muscle is a true expression of the tissue processes responsible for the increased heat production in the attendant fever, evidently the heat-yielding activity may be provoked independently of any immediate nervous stimulus; for the latter is excluded by the very fact of the heart's isolation and removal from the body. The conditions which determined the heightened heat production must reside in the cells themselves. They are doubtless started by the initiative of the nervous system; but the changes thus awakened can be continued quite independently of extrinsic nerves.

How shall we think of heightened metabolism and increased heat production started by nervous participation but subsequently maintained independently thereof? The possibilities of the hormones at once come to mind. Liberated and started on their regulative road by nervous impulses they become the independent masters of the febrile state. It is a fascinating hypothesis involving the interrelation of both nervous and chemical factors —but it is after all as yet merely a hypothesis.

1. Mansfeld, G.: Ueber das Wesen der chemischen Wärmeregulation, Zentralbl. f. Physiol., 1913, xxvii, 267.

MUSHROOM FALLACIES

Now that the Fourth of July with its tetanic dangers has passed, we may prepare for the usual "epidemic" of mushroom poisoning which seems to be an inevitable accompaniment of the summer season. The physician, rightly prized in many communities as a cyclopedia of dependable information on matters of hygienic import, is often asked to furnish some criterion of safety in relation to the dietetic use of mushrooms. There is a popular tendency to restrict the name "toadstool" to poisonous species and that of "mushroom" to the edible ones; but since one cannot tell, except by trial, whether a particular "toadstool" is poisonous or not, the distinction is neither satisfactory nor advantageous.

Many reputed tests to distinguish the innocent from the harmful toadstool are current and are implicitly believed in by some. It cannot be too emphatically stated, therefore, that so far as is known there is no single guide, with the possible exception of a chemical analysis, which will give results of any value whatever. Every scheme for distinguishing edibility in these fungi should be decisive and give uniform results. Some of the alleged tests deserve mention in order to point out their unreliability and their danger.[1] Among them the so-called "silver test" is most prevalent. It is believed that a silver spoon or coin placed with toadstools while cooking will demonstrate by blackening or failure to blacken whether or not the fungi are safe to eat. It need only be said in criticism that there are both poisonous and non-toxic species which act alike on silver. Again, no reliance is to be placed on the contention that if the outer (upper) skin of the top of the toadstool peels off readily, such a species is edible. Some poisonous species also will "peel." Flavor has often been alleged to serve as a reliable guide to edibility, the bitter or peppery species being charged with detrimental attributes. Experience shows, however, that the most poisonous toadstools are not at all disagreeable in respect to the flavor of the raw tissues. And so we might mention

1. A group of unreliable tests has been published by Setchell, W. A.: Mushrooms and Toadstools, University of California, College of Agriculture, Agric. Expt. Sta. Circular 84, January, 1913.

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further the alleged telltale color changes that are supposed to appear when toxic mushrooms are bruised or broken; or the existence of a milky juice, or the susceptibility of the fungi to the invasion of insects, which are believed to avoid the pernicious varieties. None of these "tests" can be applied with any certainty. As the "proof of the pudding is in the eating thereof," so the surest way of learning to distinguish the poisonous from the innocuous mushrooms is by eating them—a heroic procedure—or by learning the experience of others. There is no royal road to mushroom knowledge, but one must learn to know the various species as one learns to recognize the familiar plants of the forest, the field and the garden.

To those who cherish the hope that the mushroom, often proclaimed as the vegetable beefsteak which Nature lavishly offers at every hand, may solve some of the problems of economy in nutrition, we can give little comfort; for as has been pointed out before,[2] even the most nutritious mushrooms are of little real nutritive value. Their chief claim to dietetic recognition lies in their use as food accessories and dietary condiments. In no wise can they be regarded as a substitute for the substantial meats or the familiar vegetable products ordinarily consumed by man.

THE TRIKETOHYDRINDENHYDRATE OR "NINHYDRIN" REACTION

It has been well said that every new reaction introduced into physiologic chemistry furnishes the stepping-stone to a new discovery. Recently much interest has been centered in an exceptionally delicate reaction for proteins and amino-acids that promises to fulfil the expectation which its novelty has awakened. Triketohydrindenhydrate, discovered by Ruhemann and already known under the abbreviated designation of "ninhydrin," gives an intense blue color when compounds containing the amino grouping in the alpha position are heated with solutions of the reagent. It is this property which makes the reaction serve as a test for amino-acids and such complexes thereof as are found in the proteins.[1]

The fact that "ninhydrin" reacts with protein derivatives which no longer give the delicate biuret reaction has made it doubly useful in following the transformations of the albuminous substances into their non-protein components.

Abderhalden has applied the new reagent in his serum test for the diagnosis of pregnancy which has already become a routine procedure in some quarters. More lately, in order to ascertain to what extent abiuret compounds, which react with triketohydrindenhydrate, though they do not give the classic biuret reaction, may be distributed in the organism, Abderhalden and Schmidt[2] have made an extensive search for such reacting substances. These were duly found existent in fresh milk, urine, saliva, blood-plasma and serum, lymph, sweat, the contents of cysts, egg-white and meat.

In a practical way the discovery of compounds reacting with "ninhydrin" in sweat is important; for hereafter it will be necessary, in the execution of tests involving the use of the reagent, to employ special precaution against contamination with skin secretion, small traces of which are sufficient to initiate a positive reaction.

As the result of applying the new "ninhydrin" test, Abderhalden has already found that certain biologic reactions hitherto ascribed to the proteins are associated with the presence of abiuret contaminations which give the reaction. Thus it appears that various proteins which provoke distinct physiologic responses when introduced parenterally into the body lose this property if they are first purified by dialysis until the compounds reacting with "ninhydrin" completely disappear. The bearing of this on the study of anaphylaxis will at once be apparent.

Indeed, Abderhalden insists that henceforth all proteins employed in anaphylactic investigations must be subjected to thorough purification by dialysis before the responses which they may elicit are charged to the protein *per se* rather than to derived products accompanying it. We may be prepared, therefore, for some revision of current views on the subjects affected by such investigations.

FINANCIAL FACTORS IN THE MILK-SUPPLY PROBLEM

In the hue and cry which is raised from time to time regarding the condition of the milk-supplies on which American communities and municipalities depend, we fear that too little attention is given to some of the economic factors which determine the situation. The physician is interested in the question from various points of view. Milk may become a carrier of disease, and in this respect the purity of the supply must be protected at any cost; but the quality of milk has an immediate interest from a nutritive point of view as well. Milk is, of course, indispensable in the modern practice of infant nutrition, and to a certain extent in the dietary of the sick; aside from this, however, the use of milk may be regulated in no slight degree by the same considerations that apply to other foods which enter widely into the daily diet of man.

The friction which is so commonly evinced between the consumer and the producer of milk is the outcome in part of misunderstanding on both sides. We are all too prone to charge the farmer with a sort of innate stubbornness when reform measures are suggested for

2. The Place of Mushrooms in the Diet, editorial, THE JOURNAL A. M. A., July 13, 1912, p. 123.

1. Abderhalden, E., and Schmidt, H.: Ueber die Verwendung von Triketohydrindenhydrat zum Nachweis von Eiweissstoffen und deren Abbaustufen, Ztschr. f. physiol. Chem., 1911, lxxii, 37. Abderhalden, E.: Abwehrfermente des tierischen Organismus, ed. 2, Julius Springer, 1913.

2. Abderhalden, E., and Schmidt, H.: Einige Beobachtungen und Versuche mit Triketohydrindenhydrat (Ruhemann), Ztschr. f. Physiol. Chem., 1913, lxxxv, 143.

the vocation to which he is devoted. On the other hand, those who clamor for clean milk and pure food, who insist on sanitary conditions and rigorous inspection to enforce them, are often blind to the financial obligation involved therein. They are sometimes the first to resent a rise in the price of the commodity.

There are economic laws which come into operation in the milk business precisely as in any other industry. Dr. Harding and Mr. Brew of the New York Agricultural Experiment Station at Geneva have attempted to analyze some of the factors frequently overlooked.[1] They point out that the financial stimulus is the strongest force which can be enlisted in the improvement of municipal milk-supplies. The latter are not likely to become better as long as the largest profit is attained by the production of dirty milk. The New York experts note that the attempts at improvement of milk-supplies too frequently have not taken into consideration the financial magnitude of the business interests which they have undertaken to control. The lack of familiarity with the financial side of the milk business on the part of the reformers is partly due to the fact that only a small part of the investment is apparent to them and largely because detailed information on the subject has hitherto not been generally available.

A few of the statistics in the matter may be helpful in guiding the medical members of the communities, since they are usually at the front of any movement for the betterment of living conditions. It has been estimated in Harding and Brew's study of a small city with a population of 13,000 that the dairy capitalization amounts to $36.42 per capita of the people being supplied with milk. Considered from the agricultural point of view, the capitalization amounts to $763 per cow of which the producer furnishes $680 and the retailer $83. A financial analysis on this basis shows that the margin of average profit is narrow; and it is this meagerness of financial return that makes the dairy business respond promptly to any opportunity for increased gain.

Harding and Brew believe that their five years' study of a municipal milk-supply indicates fairly well that the farmers are prepared to produce any grade of milk which the market desires. They will produce it as soon as the market clearly states its wants and offers a price which will make the production reasonably profitable. The former system of wholesale prices according to which milk was bought by weight or measure regardless of its commercial quality practically compelled the production of the cheapest and dirtiest possible supply. At present prices the margin of profit in the production of milk is so narrow that the farmers cannot afford to act the part of philanthropists by the production of a higher grade of milk than the market demands and is willing to pay for. On the other hand, the farmers have a business sense which quickly leads them to produce the grade of product for which they can obtain the largest margin of profit. The important fact which stands out plainly in the present situation is that while the farmers are able and willing to produce a sanitary milk whenever its production is the more profitable, they cannot be expected to continue such production whenever there is greater profit in the making of dirtier milk.

Under present conditions there is a demand for milk for three distinct purposes: for the feeding of infants, for use by adults at table, and for cooking. The simplification of the municipal milk problem lies along the line of defining and establishing commercial grades of milk which shall correspond to these market demands. Whenever it becomes possible to buy milk by such grades and feel sure that the milk is true to grade, the supply on the market will become just as clean and pure as the purchasing public desires it to be. The grading of milk means inspection and control. The potency of this power may be very great. An intelligent application of it may bring remarkable improvement with the approval of all concerned; its abuse may lead to unjustifiable hardship with ultimate detriment. Ignorance or inefficiency in the personnel of an inspection staff on which the duty of scoring milk devolves as a basis for contracts between buyer and seller usually leads to a return of insanitary practices.

As is so often the case in every-day life, the satisfactory performance of a duty or the efficient conduct of an operation ultimately depends on the human factor. How important this may become in the immediate future of the milk-supply situation is summed up in the New York report, in reference to appointments filled in the conventional way, in these words: "The character of these appointments and the results on the milk situation which followed them indicate clearly that there must be a radical change in the prevailing point of view regarding the qualifications for municipal appointments before we shall have a public service which will command the respect and cooperation of the milk producers and retailers. Without such respect and cooperation practically nothing can be accomplished."

1. Harding, H. A., and Brew, J. D.: The Financial Stimulus in City Milk Production, New York Agric. Expt. Sta., Bull. 363, April, 1913.

RABIES

The popular belief that there is an undue prevalence of rabies during that part of the year known as "dog days" has been pretty thoroughly exploded; yet the heated period of the year does bring this subject to mind. It is fully recognized that not all dogs called "mad" are suffering from rabies, and that in hot weather dogs may have convulsions from heat-stroke or from other causes as well as from rabies. In fact, many have found that this good-natured animal may be annoyed to the point at which it will turn on those who pet it; especially will a harmless, starved mongrel, annoyed by the heat, the dust, the fleas and the persecution of persons and things that surround him, attempt to defend himself and snap. Immediately those in the street jump at the conclusion

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that the dog is mad, and a scare is on. It must be remembered, however, that in the mingling of a multitude of like animals which are constantly snarling and quarreling among themselves, when one animal is infected the chances are that the infection will be spread rapidly. Consequently, it is timely to bring this subject to the attention of our readers.

While the precaution already suggested—that not every dog that bites is the subject of rabies—should be borne in mind, nevertheless, for the welfare of the person who may have been bitten by a dog, it is important to know whether or not the dog is rabid. It is unfortunate when an animal that has inflicted such a wound is destroyed immediately. The sane procedure is to quarantine it, in order that a definite diagnosis may be determined. It should be properly guarded and kept from contact with other dogs or animals, but under comfortable conditions. If it is rabid the fact soon becomes evident. If it is simply a case of bad temper and not of disease, the proper punishment or disposal of the dog may be decided after this fact has been established. If for any reason it becomes necessary to kill the animal at once, or if this mistake has been made, the head and neck of the animal should be packed in ice and sent to a properly equipped laboratory as quickly as possible, in order that an examination for Negri bodies can be made.

It is hardly necessary to suggest that a wound resulting from the bite of an animal should be thoroughly cleansed; concentrated phenol (carbolic acid), should be thoroughly applied, and then neutralized with alcohol, and the wound covered with a large, wet, antiseptic dressing. Of course this local dressing alone is not to be depended on when the diagnosis of rabies in the animal inflicting the wound has been established. As soon as this condition of the animal is definitely determined, the patient should be given the benefit of the Pasteur treatment, which is most effective when begun within a fortnight after the wound was inflicted.

More important than the cure of hydrophobia is its prevention by administrative measures. The British muzzling order, absolutely enforced, has rendered Great Britain practically free from rabies. Surely all dogs worth the price of a muzzle or a leash should be thus restrained; the rest should be destroyed. This procedure would rob rabies of its terrors.

Current Comment

MERGERS OF MEDICAL COLLEGES

The latest merger of medical colleges reported[1] is that of the Atlanta College of Physicians and Surgeons with the Atlanta School of Medicine. The new school thus formed will take the name of one of the former college's predecessors, the Atlanta Medical College. This merger brings a united medical profession of Atlanta back of the movement to create a high-grade medical college in that city, and there are excellent chances for success. This merger leaves in the entire South only one city—Dallas, Tex.—which has more than one regular medical school for white students. In the whole country, in fact, there are now only ten cities having two or more regular medical colleges for white students, these with the number of such colleges, respectively, being: Chicago, 6; New York, 5; Philadelphia, 5; Baltimore, 4; St. Louis, 4; Boston, 3; San Francisco, 3; Washington, 2; Dallas, 2, and Omaha 2. In 1904 there were twenty-four cities having from two to eight regular medical schools. The most famous medical centers in Europe—for example, Berlin, Paris, Vienna—have but one large medical school each which makes systematic use of all the clinical facilities of those cities. There is no valid reason why this country should not have equally famous medical centers, but this cannot be so long as the highest development is prevented by the existence of two or more competing medical schools. For the further improvement, not only of undergraduate but also of postgraduate medical instruction in this country, there should be other mergers in the ten cities named.

1. Mergers of Atlanta Colleges, THE JOURNAL A. M. A., June 21, 1913, p. 1967.

THE LAY MOTE AND THE PROFESSIONAL BEAM

A physician in Maryland writes:

You have passed a mild condemnation on nursing schools that teach nursing by correspondence methods. Cannot you take a concrete case—the *Ladies' Home Journal*—and show the editors that they are bolstering up frauds when they take and publish such advertisements? I called their attention to the immorality of such advertisements, but an unknown individual has no weight in such an instance. If the weight of THE JOURNAL's influence is brought home to them, they probably will take notice, but at the moment "they see nothing wrong" in them.

Our correspondent is mistaken in thinking that the protest of an individual has no weight. It has great weight with every honest editor and publisher. The trouble lies deeper. Every criticism, by the medical profession, of advertisements that appear in the better class of lay journals, is weakened by the unfortunate fact that medical periodicals, some of them controlled by the organized profession, carry advertisements practically identical with those criticized. Naturally it is hard for physicians to persuade laymen that there can be anything particularly bad in advertisements that are accepted by the official organs of the medical profession. The greatest handicap that we have to-day in our fight for truthful advertising is that imposed by ourselves. The most discouraging feature of our propaganda for reform is the fact that where we ought to be able to look for help and support, we get apathy or opposition.

NEW JOURNAL OF TROPICAL DISEASES

The American Society of Tropical Medicine with July began the publication of an official journal called the *American Journal of Tropical Diseases and Preventive Medicine*. The new journal is issued from New Orleans in connection with the School of Tropical Medicine of Tulane University, and is printed at the university press

Dr. Creighton Wellman is editor-in-chief, assisted by Drs. Charles Chassaignac and Isadore Dyer and a staff of collaborators in various parts of the United States and our island possessions. The study of tropical diseases, so important in preventive medicine, has an added interest for the profession of the United States on account of our tropical possessions, the opening of the Panama canal, and the increased governmental interest in our West Indian and Central American neighbors. It is entirely fitting that the new journal should be under the editorial direction of the men connected with the School of Tropical Medicine at Tulane, both by reason of the enterprise of the university in establishing a department of tropical medicine and the distinctive service rendered by the men connected with that department in research in tropical medicine. The first number of the new journal has over one hundred pages and is well printed and illustrated. It contains a number of original articles on various topics of tropical medicine, together with a department of abstracts of the literature pertaining to this branch, book reviews, news items, etc. The initial number sets a high mark in the journalism of the special societies.

THE BLOOD-SUGAR IN HUMAN DIABETES

Recently we referred to what may be termed standard or normal figures for the sugar content of the blood[1] as they have been established by the current improved methods of biochemical analysis. In round numbers, 0.1 per cent. of sugar may be taken as the standard for the individual in health and in the absence of disturbing features. It is well appreciated to-day that the typical forms of diabetes are accompanied by a hyperglycemia, that is, increased sugar content of the blood, which often comes into evidence on analytic examination even when the other symptom—glycosuria—fails to be manifested. A large number of data recently collected by Rolly and Oppermann[2] in Leipsic give some idea of the range of pathologic variation in diabetes. Figures exceeding 0.4 per cent. of sugar in the blood are not uncommon. In diabetic coma even larger amounts were found, ranging beyond 1 per cent. Under these conditions the cerebrospinal fluid, which may serve as an illustration of a tissue fluid, also was exceptionally rich in sugar, quantities equivalent to 0.5 per cent. being not uncommon. Inasmuch as the more marked increments in sugar content were coincident with the genesis of the comatose conditions, they point to an insufficiency of the kidney as the primary cause of both these phenomena. The permeability of the kidney for sugar appears to be decidedly variable even in the same diabetic individual. Here is evidently one point of attack of the so-called cures for diabetes—the oatmeal dietary, etc. By virtue of some component in the food used, they may act on the kidney filter to alter its permeability, and thus by diminishing the excretion give rise to the appearance of increased tolerance for carbohydrate. Unquestionably, further study of the sugar content of the blood will help to clarify some of the obscure problems created by apparently successful empiric methods of treatment.

1. The Sugar Content of Human Blood, editorial, THE JOURNAL A. M. A., April 19, 1913, p. 1228.
2. Rolly, F., and Oppermann, F.: Der Blutzucker bei Diabetes mellitus, Biochem. Ztschr., 1913, xlix, 278.

Medical News

ALABAMA

Ambulance for Employes.—The managers of the Coosa River Dam have introduced an ambulance to be used in conveying patients to railroad stations or hospitals, when necessary.

New Dispensary for Birmingham.—A committee of seven has been appointed by the president of the University of Alabama to consider ways and means of raising $100,000 for the establishment of a university free dispensary building in Birmingham. At present the dispensary is conducted in a small cottage near the medical college where about one thousand patients a month have been treated.

CALIFORNIA

Lane Lectures.—The fourteenth series of Lane medical lectures will be given by Sir Edward Schäfer, professor of physiology in the University of Edinburgh, Scotland. The lectures will be on "The Functions of the Ductless Glands, Especially in Relation to Other Secreting Organs." They will be delivered at 8 p. m., September 3, 4, 5, 8 and 9 in the Lane Hall of the Stanford University Medical Department, Sacramento and Webster Streets, San Francisco.

Personal.—Dr. Allen R. Powers, Rio Vista, has been appointed surgeon to the Solano Irrigated Farms, Incorporated, and to the Oakland, Antioch and Eastern Railroad.——Dr. J. W. Clark has resigned as a member of the board of managers of the Napa State Hospital.——Dr. N. P. Crooks, surgeon in the employ of the Toya Kisen Kaisha for twelve years, formerly of Santa Barbara, is touring the United States during a six months' leave of absence.——Dr. P. V. K. Johnson, Los Angeles, has been appointed a member of the Bureau of Municipal Nursing.

ILLINOIS

The Illinois Medical Journal.—The *Illinois Medical Journal*, which is the official organ of the State Medical Society, has changed its style of "make-up," following the lead of a number of other state journals which have become uniform in size. This, besides being a distinct improvement on the style of the old journal and affording opportunity for better work by the printer, is said to lessen the expense of publishing.——Dr. George Edwin Baxter, assistant editor of the *Illinois Medical Journal*, after eight years of faithful and efficient service, has resigned, and Dr. Henry G. Ohls is now the managing editor of the journal.

Pass Civil Service Examination.—The following have passed the State Civil Service examination for assistant physicians: Drs. Harry M. Thometz, Chicago; Walter C. Cook, Kankakee State Hospital; Clara E. Hayes, Peoria; Otis Like, Curran; Egbert W. Fell, Medical Lake, Wash.; James K. Pollock, Peoria; Walter A. Ford, Watertown State Hospital; Warren G. Murray, Springfield; Elgen C. Pratt, Kankakee State Hospital; Howard T. Child, Leupp, Ariz.; Ellsworth Trowbridge, St. Joseph, Mo.; Joseph Cooperstein, Chicago; Arthur H. Deppe, St. Louis, Mo.; Edward Strickler, Elizabethtown, Ky.; Faith E. Spangler, Chicago State Hospital; Philip S. Waters, Anna State Hospital; Clara Dunn, State Training School for Girls; Thomas F. Neil, Watertown State Hospital, Watertown.

Chicago

Personal.—Dr. Oliver S. Ormsby, Dr. and Mrs. Frank C. Todd, Dr. William Allen Pusey and Dr. Anthony Krygowski have sailed for Europe.——Dr. L. Munger, who was injured recently at Clark Lake, is convalescent and has returned home.——Dr. Peter C. Clemenson has been appointed a member of the Board of Education and Dr. Frank J. Pokorney a member of the Library Board.——Dr. E. P. Murdock recently fractured his leg in the fall of an aeroplane near Spokane, Wash.

Hospital Day Fund.—Mrs. John B. Murphy, treasurer of the Free Bed Fund of the Chicago Hospital Aid Association, in her report of the subscriptions and contributions made in May last, for the benefit of the hospital fund, states that $25,000 was collected, that nearly $9,000 is being held at the State Bank of Chicago for a contagious disease hospital and research fund when the institution will be established; $8,833.33 has been received for the Chicago Baptist Hospital and a similar amount has been expended for the sick poor in various hospitals, and that a balance of $7,558.59 is still in the hands of the association awaiting distribution.

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INDIANA

New Officers.—Indianapolis Board of Health: president, Dr. Mavity J. Spencer; vice-president, Dr. T. Victor Keene, both reelected.

Sanatorium Burns.—Fire destroyed the Spiceland Sanatorium July 22. The twenty patients were removed in safety. The loss is estimated at about $20,000, one-third covered by insurance.

Personal.—Employees of the Indianapolis City Board of Health presented a surgical outfit to Dr. M. J. Spencer, president of the board, on the occasion of his birthday, July 29.——J. F. Spaunhurst, an osteopathic practitioner of Indianapolis, and Dr. S. G. Smelser, Richmond, have been reappointed members of the State Board of Medical Registration and Examination.——Dr. T. C. Kennedy, Indianapolis, who has been seriously ill, is reported to be improving.

Sanatorium Notes.—The New Albany Antituberculosis Association is said to have selected a site for the proposed Floyd County Antituberculosis colony. The plans for the colony provide for from twelve to twenty-four shacks with an administration building.——Cass County Association for the Prevention and Cure of Tuberculosis is directing the construction of a tuberculosis cottage to be established in connection with the Chautauqua, to show the ravages of tuberculosis and to teach methods of combatting and preventing the disease.——Fort Wayne Tuberculosis Society has ordered a large number of open tents or canopies for the use of tuberculosis patients.

IOWA

Personal.—Dr. H. H. Nichols, Marshalltown, who was operated on for appendiceal abscess at St. Thomas' Hospital, July 26, is reported to be steadily improving.——Dr. Alexander S. Begg, Des Moines, has been appointed instructor in anatomy in Harvard Medical School.——Dr. and Mrs. F. S. Feeney, New Hampton, have returned from Europe.

State Board Conference.—A campaign for strict adherence to the sanitary laws in the rural districts of the state is planned in a conference to be held between Dr. Walter L. Bierring, chairman of the State Board of Health, Dr. G. H. Sumner, secretary, and L. Higgins, engineer. Especial care is to be taken of the water system of the smaller towns in the state.

MARYLAND

Personal.—Drs. John E. Legge and William L. Burns, both of Cumberland, have sailed for Europe.

Campaign against Disease.—A campaign against disease inaugurated by the Medical and Chirurgical Faculty of Maryland will be carried into Frederick next week. An exhibit covering 120 feet will be installed at the Y. M. C. A. Building and addresses will be made on tuberculosis, alcohol, mental and social diseases and infant mortality.

Baltimore

The University Library.—The annual report of the library of the Department of Medicine of the University of Maryland for the fiscal year shows that the library had on June 1, 1913, 11,655 bound volumes and since that date the collection of the Baltimore Medical College, amounting to about 1,000 volumes, has been added.

Personal.—Dr. Thomas P. Sprunt has been appointed professor of pathology in the graduate school of medicine of the University of Alabama, Mobile.——Dr. Frederick H. Baetjer, who lost four fingers of his right hand a year ago from x-ray burns, is recovering from an operation of grafting the skin of his abdomen on the hand.

MASSACHUSETTS

Personal.—Dr. Arthur A. Howard has been appointed physician in chief of the Boston Dispensary Hospital for Children and the Children's Medical Out-Patient Department, vice Dr. William P. Lucas, resigned to become professor of pediatrics in the Medical School of the University of California.

Uniform Policy in Treatment of Tuberculosis.—Dr. John B. Hawes, speaking before the House of Recess committee on tuberculosis in Boston, July 17, stated that the state's policy during the treatment of tuberculosis is well defined and aims at the following results:

1. A state sanatorium (Rutland) reserved for really incipient and favorable cases where the latest and best ideas of sanatorium treatment can be carried out.

2. Other state sanatoria, nor far distant from the large centers of population (North Reading, Lakeville and Westfield), to which can be sent incipient consumptives should they prefer this to Rutland, and also moderately advanced and chronic advanced consumptives who have good chances of arrest and cure under real sanatorium treatment.

3. Local municipal hospital in each city and town where advanced and dying consumptives can be isolated, cared for and made as comfortable as possible away from their homes and yet near to family and friends.

4. A tuberculosis dispensary in each city and town, provided with a sufficient number of trained nurses or social workers, who can direct patients as to home treatment while waiting to get into a sanatorium or hospital, who can help and advise the family after the patient has gone, and who can see that the patient carries on treatment, keeps under supervision, or has suitable employment on his return.

5. A state sanatorium to which young children can be sent and given schooling while taking the cure.

6. More stringent enforcement of the law, which should regard the vicious, alcoholic and careless consumptive as a criminal, and to be treated as such.

Dr. Hawes then explained the conditions, relative to hospitals, existing in each of the cities of the Commonwealth, as discovered in the investigation made by his commission.

MICHIGAN

European Travelers.—Drs. M. E. Silver, E. A. Chapoton, Angus McLean and J. M. Robb and Dr. and Mrs. William H. Browne, Detroit, Drs. Charles E. Stewart and J. T. Case, Battle Creek, and William Northrup, Grand Rapids, have sailed for Europe.

Personal.—The house of Dr. F. H. M. Long, Eaton Rapids, was struck by lightning, July 22, and entirely destroyed.——Dr. E. A. Chapoton, vice-president of the fire commission of Detroit, has resigned.——Dr. and Mrs. W. K. Kwiecinski, Detroit, celebrated their twenty-fifth wedding anniversary, July 26.

MINNESOTA

Improvements in Hospital.—The St. Paul Hospital will be ready to receive patients in October or November, after $20,000 has been spent for improvements. The institution will accommodate seventy patients.

Personal.—Dr. A. F. Schmitt has been appointed local surgeon of the Chicago Great Western Railroad at Mankato, vice Dr. A. O. Bjelland, deceased.——Dr. J. Clark Stewart, Minneapolis, who has been seriously ill in Baltimore, has returned home convalescent.

University Clinics in St. Paul.—President Vincent of the University of Minnesota proposes to have the clinical work at the St. Paul City and County Hospital so divided that the teaching faculty of the medical school will receive half the patients. On October 1, the present staff system of the hospital will be changed and arrangements will be made whereby half the staff will be members of the faculty of the university medical school and on duty all the year round, while the other half will consist of physicians not connected with the university, who will serve for periods of three months.

MISSOURI

Hospital Changes Location.—Drs. R. M. Benson and W. G. Atwood have purchased property at 110 North Main Street, Carrollton, and will transfer the South Side Hospital to this location, about September 1.

Personal.—Dr. George E. McNeil, house surgeon at the Missouri, Kansas and Texas Hospital, Sedalia, recently suffered the amputation of a finger.——Dr. T. M. Monroe, Laddonia, was seriously injured when the automobile in which he was crossing the Alton tracks, was struck by a passenger train, July 24.——Dr. Philip Scholz, St. Louis, is reported to be in a critical condition, at St. Mary's Infirmary, from injuries received July 27, when he was struck by an automobile while alighting from a street car.

NEW YORK

Whirlwind Campaign for Hospital.—A twelve-day whirlwind campaign for the purpose of raising $90,000 is being conducted in behalf of St. Joseph's Hospital at Far Rockaway. The funds are to be used in the construction of a new building for the hospital.

Investigating Summer Resorts.—Inspectors of the State Health Department are making a tour of the hotels, summer camps, etc., in the Adirondacks, with a view of ascertaining their sanitary condition and environment. Attention is directed principally to those places whose sanitary condition has previously been criticized.

Reorganization of State Health Department.—Plans for the reorganization of the State Health Department under the law passed by the last legislature were discussed by the State Health Commissioner and his division chiefs at a meeting, July 10. One of the most important features of the reorgan-

ization is provided for by the vital statistics law. In the reorganized department, the commissioner will have to appoint a deputy commissioner, nine heads of divisions and supervisors for the twenty or more sanitary districts into which the state is to be divided.

The Recent Conference on Infant Welfare.—The State Health Department has issued a special bulletin giving a report of the Conference on Infant Welfare held at the State capitol, Albany, June 12. This report is worthy of study by all those interested in the reduction of infant mortality as giving a demonstration of the results that can be attained by properly directed efforts. The suggestions for work in small towns and for prenatal work are especially worthy of study as it is in these directions that the greatest reduction in the death rates in the immediate future may be looked for.

Personal.—Dr. Franklin C. Gram, head of the Bureau of Vital Statistics in the Buffalo Department of Health, has been appointed acting health officer of the city.——Dr. Anna Katherine Daley, Rochester, has been elected supreme medical examiner of the Ladies' Catholic Benevolent Association, vice Dr. Jane W. Carroll, resigned.——Dr. James P. Barr, Buffalo, is said to be seriously ill with an infected wound of the hand.——Dr. L. A. Roth, Elmira, who has been ill for several weeks, is reported to be convalescent.——Dr. Charles D. Kline of Nyack recently sustained a fracture of the wrist while cranking his automobile.——Dr. J. William Giles of Nyack has been appointed health officer of South Nyack under the new state law.——Dr. James S. Ames of Babylon, L. I., Dr. and Mrs. J. W. Bennett of Rochester and Dr. George A. Peck of New Rochelle have sailed for Europe

New York City

Eye and Ear Institution to Have New Building.—The New York Ophthalmic and Aural Institute, 40 to 46 East Twelfth Street, which was founded by Dr. Herman Knapp in 1869, will move to its new building at Fifty-Seventh Street and Tenth Avenue, October 1. The new hospital is a seven-story building especially constructed for the treatment of diseases of the eye, ear and nose.

Training for Baby Contest.—In order to make baby contests more effective the Chelsea Neighborhood Association announces that there will be baby contests in October and that mothers who wish to exhibit their babies at that time should register at a certain time this month and they will thus have three months in which to train the babies for the contest. It is believed that the process of preparing for a contest will stimulate the mothers to learn more in regard to the care of the baby than the usual methods of conducting contests.

The Death Rate for the Second Quarter.—For the second quarter of this year the death rate has been 14.15 per 1,000, which was a decrease of 1.59 from the average of the past five years. The number of marriages showed a falling off of 228 for the corresponding quarter of last year. The mortality from typhoid fever has diminished 57 per cent. from that of the year 1912, the present year giving promise of showing the lowest mortality from typhoid fever on record. The mortality from tuberculosis was lowered by 208, from measles by 115, from scarlet fever by 115, and from diphtheritic croup by 71.

Off for Europe.—Among those who have sailed recently for Europe are the following: Dr. Charles L. Dana, Dr. and Mrs. William K. Draper, Dr. and Mrs. N. B. Foster, Dr. and Mrs. L. Duncan Bulkley, Dr. Otto H. Schultze, Dr. Eugene Fuller, Dr. and Mrs. J. C. P. Van Loan, Dr. Thomas J. Harris, Dr. A. C. DuPont, Dr. and Mrs. W. P. Simpson, Dr. and Mrs. William B. Coley, Dr. Haven Emerson, Dr. and Mrs. Henry W. Frauenthal, Dr. James T. Gwathmey, Dr. and Mrs. Richard Lewisohn, Dr. James I. Russell, Dr. and Mrs. W. E. Lambert, Dr. E. D. M. Lyon, Dr. James Pedersen, Dr. W. A. Bastedo, Dr. J. McFarlane Winfield, Dr. Margaret A. Cleaves, Dr. and Mrs. A. L. Soresi, Dr. John Warren, Dr. F H. Bosworth and Dr. Isadore Hirsch.

NORTH CAROLINA

Memorial to Dr. Meriwether.—At the meeting of the Buncombe County Medical Society, July 21, a memorial of the late Dr. Frank Tryon Meriwether, Asheville, was ordered to be spread on the minutes of the society.

Personal.—Dr. J. W. Long, Greensboro, has sailed for Europe.——Dr. J. T. Matheson, Charlotte, has returned from Europe.——Dr. W. S. Rankin, secretary of the State Board of Health, has returned from an official trip to Panama

New Quarters for State Board.—The Council of State has awarded the contract for remodelling the old Supreme Court building, Raleigh, at a cost of $40,000. The entire fourth floor of this building will be turned over to the State Board of Health as its permanent headquarters.

PENNSYLVANIA

Cottages Inspected.—Dr. Samuel G. Dixon, state health commissioner, visited the State Sanatorium, Cresson, July 16, inspected the twenty new cottages and formally accepted them on behalf of the state.

Medical Practice Act Effective.—Governor Tener has signed the new medical practice act which becomes effective at once. It provides for a preliminary education of a year of college work each in physics, chemistry and biology in addition to a standard four-year high school education. It also provides that the candidate for license must have completed at least a year as intern in an approved hospital before he is eligible to take the examination.

Sanatorium Notes.—Director E. R. Walters of the Department of Health and Charities of Pittsburgh has opened bids on the contracts for erecting a tuberculosis sanatorium, improving the municipal hospital and erecting new buildings at the city poor farm. The entire cost of these improvements is to be about $450,000.——Plans have been prepared for a brick and frame two-story building to be erected at Eagleville for the Jewish Sanatorium for Consumptives.

Personal.—Dr. Ralph E. Kell, superintendent of the Insane Hospital at the Chester County Home, Embreeville, has resigned and left the institution August 1.——Dr. A. J. McRae has succeeded Dr. D. C. Wilkins, resigned, as superintendent of the Wilkes-Barre City Hospital.——Dr. Howard H. Bell Harrisburg, has been elected professor of pathology and bacteriology in the University of Alabama.——Dr. D. C. T. Watkins, South Sharon, has retired from practice and returned to his old home in South Wales.——Dr. William C. White, Pittsburgh, has sailed for Europe.

Philadelphia

Personal.—Drs. Clinton DeFoney, Charles T. Russell, Jr. and Lincoln D. Frescolin have been appointed police surgeons of Philadelphia.——Dr. J. C. McCracken left Philadelphia, July 29, to resume his duties at the University Medical School, Canton, China.——Dr. Hubley R. Owen has been reinstated as chief surgeon of the police and fire bureaus.

Baby Contests to be Held.—Better baby contests are to be held in five sections of the city next October under the Child Hygiene Association. Rooms will be taken in these parts of the city and doctors and nurses will be in daily attendance. Every baby entered will be examined by physicians and its mother will be shown where it fails in coming up to the standard. A card will be given to each child registering its weight and during the eight weeks that the contest will last the babies will be under observation. Prizes will be based on the individual improvement.

Children's Open-Air Wards at Hospitals.—Most of the hospitals of the city have made provision for children patients during the hot weather. The Methodist Hospital allows the children under its care to play on the lawns and there are cots there for the very young children. Jefferson Hospital has spent $16,000 for a roof garden. There are three rooms, the sides of which are glass, built on the roof. These glass sides are in the shape of windows and can be opened or closed as the weather demands. Another part of the roof has been screened off, where the children can play. The Presbyterian Hospital has placed cots on the wide porches and convalescent children are sent to the country and seashore. The social service of this hospital sent fifty-seven children to the country several days ago. Mount Sinai Hospital has fitted up a porch, exposed on three sides, where children sleep. University Hospital has fitted up a sun-parlor and the women interested in the Women's Hospital have fitted up a roof garden.

VIRGINIA

To and From Europe.—Dr. Stewart McGuire, Richmond, Dr. Leigh Buckner, Roanoke, and Dr. Gray G. Holladay, Portsmouth, have sailed for Europe.——Dr. and Mrs. Thomas Murrell, Richmond, have returned from abroad.

The Prevention of Malaria.—The first meeting of the Virginia Society for the Study and Prevention of Malaria was held in Norfolk, July 14. Dr. Wilson E. Driver was elected as the chairman of the board of managers, and the temporary officials were made permanent for one year.

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State Board Election.—The Virginia State Board of Health met at the Catawba Sanatorium, July 16, Dr. Ennion G. Williams, state commissioner of health, in the chair. The following officers were elected: president, Dr. William M. Smith, Alexandria; vice-president, Dr. Samuel W. Hobson, Newport News, and secretary, Dr. John B. Fisher, Midlothian.

WASHINGTON

Health Department Exhibit.—A reproduction of the exhibit taken of the International Congress of Hygiene and Demography last year has recently been shown in the lecture room of the Bon Marché, Seattle. During the exhibit, lectures were given on the subject of health and sanitation, and pamphlets were distributed.

Personal.—Dr. M. B. Grieve, Spokane, has been elected physician by the high state court of the Independent Order of Foresters.——Dr. William Cass, Vancouver, has been appointed superintendent of the Northern Hospital for the Insane, Sedro-Woolley, vice Dr. A. H. McLeish.——Dr. J. E. Lane, North Yakima, for two years physician of Yakima County, has resigned and will return to his old home in Ansonia, Conn. ——Dr. Wilson Johnston, Spokane, has been elected a vice-president, and Dr. James Sutherland a member of the board of directors of the Washington Association for the Prevention and Relief of Tuberculosis.

WEST VIRGINIA

Personal.—Drs. Chester R. Ogden and D. C. Louchery, Clarksburg, have sailed for Europe.——Dr. Frank LeMoyne Hupp, Wheeling, and daughter have sailed for Europe.——Dr. G. W. Bruce, Moundsville, dean of the medical profession of the Pan Handle, celebrated his eighty-sixth birthday, July 27.

WISCONSIN

New Officers.—Brainard Medical Society at Milwaukee: president, Dr. W. J. Wehle, West Bend.

Health Camp Started.—Winnebago County has established a tuberculosis camp for children in the village of Allenville.

Hospital Fund Grows.—The friends of Mount Sinai Hospital, Milwaukee, have raised $32,000 of the $50,000 required to secure the contingent donation of $50,000 of Abraham Slimmer.

Golden Jubilee of Hospital.—The fiftieth anniversary of the founding of the Milwaukee Hospital was celebrated August 3-4. The capacity of the institution originally was fifteen patients. In memory of the anniversary, a new surgical annex erected at a cost of almost $100,000 has been opened.

Personal.—Dr. F. I. Drake, Madison, has been appointed physician at the State Prison, Waupun, vice Dr. L. Rock Sleyster.——Dr. E. W. Bartlett, Milwaukee, is reported to be critically ill at his home.——Dr. Mazyck P. Ravenel, Madison, has been designated by the secretary of agriculture to report on conditions in meat packing establishments in St. Paul, Indianapolis, Milwaukee and Chicago.——Major Edward C. Barnes, M. C., N. G. Wis., has resigned and has been placed on the retired list.——Dr. Stephen M. Babcock has been made professor emeritus of agricultural chemistry in the University of Wisconsin.

TEXAS

Personal.—Dr. A. J. Caldwell, Corpus Christi, sailed for Europe, July 25.——Dr. P. H. Brown, Temple, is recovering rapidly from his recent illness.

State Appropriations for Tuberculosis.—Items of $98,949 for the State Tuberculosis Sanatorium for the first year and $72,650 for the second year have been added to the appropriation bill by the governor.

Hospital for Hunt County.—A number of physicians of Greenville met July 12 and discussed the proposed county hospital. A committee was selected to present the matter to the county commissioners and to ask for an appropriation of $150,000 for the building and its equipment.

A Jury of Physicians.—For the first time, it is believed, in the history of Texas a jury of six practicing physicians has been impaneled to act on insanity cases. This court is in Dallas and the jury consists of Drs. William Hale, Jr., J. M. Neel, R. J. Gauldin, C. L. Johnson, V. P. Armstrong and J. M. Boyd.

Health Exhibit at State Fair.—Dr. M. M. Carrick, Dallas, announces that he has already arranged for exhibits at the State Fair from the National Association for the Prevention of Mental Diseases, the American Medical Association, the United States Public Health Service and the Chicago Department of Health. There is also to be an extensive exhibit on tuberculosis.

GENERAL

Associate Professor of Surgery Wanted.—Dr. John R. McDill, Manila, P. I., has received information from the University of the Philippines that there is a vacancy in the position of associate professor of surgery in that institution.

Missouri Valley Physicians to Meet.—The twenty-sixth annual meeting of the Medical Society of the Missouri Valley will be held at the Hotel Rome, Omaha, September 18-19, under the presidency of Dr. H. B. Jennings, Council Bluffs, Ia.

English Pathologist to Investigate Pellagra.—The Thompson McFadden Commission has received advice that Dr. Louis Sambon of the London School of Tropical Medicine will visit Spartanburg, S. C., this month to study the pellagra situation.

New Officers.—Sioux Valley Medical Associationn at Sioux Falls, S. Dak.: president, Dr. E. D. Putnam, Sioux Falls; vice-presidents, Drs. Robert Evans, Fort Dodge, Iowa, and J. M. O'Connell, Ponca, Neb.; treasurer, Dr. W. R. Brock, Sheldon, Iowa.

Made Honorary Fellows.—The council of the Royal College of Surgeons of London has elected the following honorary fellows: Drs. Harvey Cushing, Baltimore; J. B. Murphy, Chicago; W. J. Mayo, Rochester, Minn., and George W. Crile, Cleveland.

Change of Meeting Place and Date.—The fourth annual meeting of the American Association for the Study and Prevention of Infant Mortality, which was to have been held in Kansas City, Mo., October 23-25, will be held in Washington, D. C., on November 14-17, under the presidency of Dr. L. Emmett Holt, New York City.

Medical Service for Railway System.—Application has been filed in the circuit court at St. Louis for a pro forma decree of incorporation for the Missouri, Kansas and Texas Employees' Hospital Association. The purpose of the association is to provide medical and surgical services for employees of this system and to establish hospitals along its lines with headquarters in St. Louis.

Psychic Research Society Organizes.—The American Society for Psycho-Physical Research was organized in San Francisco, recently, with the object of investigating the curious phenomena of a physical nature, yet unclassified by science. Dr. Albert Abrams, San Francisco, was elected president, Dr. W. G. Mizner, San Francisco, a vice-president, and Dr. Patrick O'Donnell, secretary.

Bequests and Donations.—The following bequests and donations have recently been announced:

Children's Hospital School, Baltimore, $10,000 by Mr. Simon Adler, for the erection of an additional building.

Southern Pacific Hospital Service, a donation of $10,000 from Mrs. E. H. Harriman.

Maimonides Hospital, Chicago, an additional donation of $5,000 from Abraham Slimmer, Dubuque, Ia.

St. Barnabas Hospital, New York City, and Home for Incurables, New York City, each $5,000; the Hospital for Women and Children and the Home for Incurable Children, New York City, contingent bequest by the will of Mrs. Clarence C. Hardy.

St. Luke's Hospital, South Bethlehem, Pa., a donation of $35,000 for the erection of a woman's ward and a convalescent ward, by Ekly B. Cox, Jr.

Protestant Episcopal Hospital, Philadelphia, $5,000 for the endowment of a bed by the will of Rev. L. T. Chamberlain.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, July 12, 1913.

Constitutional Reform of the British Medical Association

The failure of the British Medical Association, in its attempt to prevent the working of the National Insurance Act, has given rise to a project of constitutional reform so as to provide a more efficient body in future struggles. The council of the association has endorsed the view put forward by branches of the association to the effect that the representative body, in whom is vested the power of declaring the policy of the association, should cease to be an assembly of delegates bound to vote in a particular way irrespective of the evidence placed before them at the representative meeting. The meetings of the divisions of the association, which appoint the representatives, are usually badly attended, and however small the number present, it can bind the representative to vote in a particular way. Another proposal to secure more effective representation of the views of members is to take a postal vote.

Another Fall in the Birth-Rate: Low Infantile Mortality

The annual summary for 1912 of marriages, births and deaths has just been issued by the registrar general. The population of England and Wales in the middle of 1912 is estimated at 36,539,636 persons, of whom 17,672,985 were males and 18,866,651 were females. The marriages numbered 283,195, a rate of 15.5 per thousand, being an increase of 0.3 on the previous year. The births numbered 872,767, being a rate of 23.8 per thousand, a decrease of 0.6. The deaths numbered 486,967, a rate of 13.3 per thousand. This was 1.3 below the previous year and is the lowest yet recorded. Infantile mortality, measured by the proportion of deaths under one year of age, to births, was 95 per thousand, or 35 less than in 1911. It was 30 per thousand less than the average of the preceding ten years and was the lowest on record.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, July 18, 1913.

Memorial to Professor Raymond

On June 6 a beautiful bronze medallion of Professor Raymond was installed at the Salpêtrière. He succeeded Charcot and occupied the chair of nervous diseases from 1894 to 1910. Dr. Claude called attention to Professor Raymond's work on Addison's disease, syphilitic muscular atrophy and tuberculous myelitis, to his discovery of the motor nodes of the mixed nerves, the cortical origin of the facial nerve and the cerebral pathway of the hypoglossus. Raymond was, in 1885, one of the first to believe in the syphilitic origin of tabes and general paralysis, a belief now confirmed by laboratory studies, staining of the treponema and biologic reactions.

Temporary Lodgings for Large Families

Senator René Berenger has suggested constructing for homeless families, temporary buildings, somewhat like the barracks frequently erected for soldiers. In these collective homes parents could find lodging for their children and could leave them in competent hands while they went to work. This plan has been very favorably received and the municipal council has just made an appropriation of 200,000 francs for the committee to provide temporary lodgings for large families. Moreover, considerable sums have been received by subscription.

Measures to Combat Depopulation

The Alliance nationale pour l'accroissement de la population française has just been formed with Dr. Jacques Bertillon as president. The aim of this society is to increase the French birth-rate opposing the malthusian propaganda by improving the condition of large families and by trying to overcome poor housing conditions with entire independence of any political or religious discussion.

The Quadricentenary of Andreas Vesalius

Belgium is preparing to celebrate the fourth centenary of the illustrious anatomist, Andreas Vesalius, born at Brussels, in 1514.

Personal

The Académie des Sciences de Bologne has just elected to membership Dr. Gley, professor at the Collége de France.

Dr. Jacques Bertillon, chief of the bureau of municipal statistics of Paris, has just retired.

American Physicians in Paris

About fifty American physicians have undertaken a trip for medical study in France and Germany before attending the approaching International Medical Congress in London. On July 15 they visited many of the hospitals and clinics, the Faculté de médecine, the Académie de médecine, the Museum of Hygiene of the City of Paris and the Institut Pasteur.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, July 11, 1913.

Annual Meeting of the Organized Profession in Germany

There was no meeting held in 1912, but the Deutscher Aerztetag met this year at Elberfeld, July 3 and 4. About 300 delegates participated, representing more than 24,000 physicians. As usual, on the previous day the general meeting of the Leipsic League (Leipziger Verband) took place. The following data from the business report of the general secretary will give an idea of the extensive activities of the league. The league now has 25,184 members, who are divided into 129 sections with 1,298 official advisers. The correspondence of the league bureau amounted to about 400,000 communications. The department for securing locations provided 3,409 medical positions of all kinds. The information bureau for legal matters was employed to an extraordinary extent. The league correspondence bureau provided the daily press with information regarding the efforts at organization of the medical profession. The insurance department had a satisfactory business and in spite of its short existence showed a considerable surplus. The loan and death bureau has loaned $235,970 (943,881.45 marks) on securities. The amounts obtained from voluntary contributions have amounted since their establishment to $41,567 (165,870.50 marks) which have been distributed to the widows and orphans of physicians. The contracts with the German steamship companies for remuneration of their medical officers have been entirely successful, and the agreement between the imperial postoffice and the league in regard to the basis for the medical services rendered to the Krankenkassen for postal clerks was an important advance. There were no new difficulties of consequence with the legally established Krankenkassen.

The Aerztetag was opened by the new president, Sanitary Councilor Dippe of Leipsic. The director of the medical bureau, Professor Kirchner, was present in person as the representative of the Prussian medical state department. The first address was made by Dr. Streffer of Leipsic on the work of the Krankenkassen committee. The committee was appointed two years ago at the last Aerztetag for the following purposes: The greatest possible extension of the free choice of physicians, the establishment of reconciliation and arbitration courts between physicians and the Krankenkassen and between physicians themselves, control of regulations of contract practice, the exclusion of quacks from insurance practice, the introduction of a sliding scale of fees, compensation for threatened loss of private practice, and the establishment of a central examination bureau for contracts of insurance physicians. The speaker reported the extent to which the commission had succeeded in these individual tasks.

A motion of one of the associations which had already excited a great deal of debate in the medical press between its proponents and opponents came up for discussion. The motion was to the effect that the Aerztetag should require German physicians to demand payment for their services in cases which affect so-called "undertakings for the common good." The determination of the question whether payment for services in certain cases is to be demanded or not is to be reserved to the representatives of the local profession. The author of the motion defended it with the argument that, as a matter of principle, no professional service should be given without pay. For this reason the instructive lectures of physicians and the instruction of the first aid societies and the services to the Red Cross should be paid for. Fortunately the majority of the physicians showed that they do not regard everything from the standpoint of material interests, but look on the medical profession in principle as a humane and ideal one. The motion was lost, although abuses in this direction were recognized. A resolution was passed that the business committee of the Aerztetag should be required to collect data with regard to the payment and position of physicians in such general public welfare work and to prepare for the next Aerztetag definite motions regarding it.

THE VACCINATION QUESTION

In view of the unremitting efforts of the antivaccinationists to abolish compulsory vaccination, the next subject was the vaccination question. The whole question was discussed thoroughly in a statistical manner. Among other things, the misuse of the vaccination question for political purposes was criticized. The following resolution was unanimously adopted:

The imperial vaccination law of April 8, 1874, should be maintained in its complete details on the basis of the experience of nearly forty years, and in view of the continual marked danger from small-pox. The attacks on this beneficent law are entirely unjustified and especially we give an earnest warning to legislators not to heed any demand for the introduction of the so-called "conscience clause."

ACCIDENTS TO MEMBERS OF TRADES UNIONS

The relation of physicians to the so-called "trade unions" was discussed, and particularly the right of the general prac-

titioner to treat the injured as against the medical officials of the trade unions was emphasized.

FOREIGN PHYSICIANS PRACTICING IN GERMANY

The meeting closed with a discussion of the abuses arising from the practice of foreign physicians in Germany. The subject was introduced by a motion by the delegation from Kissingen. The freedom of practice in Germany permits the gradual overwhelming of Germany with foreign, especially Russian, physicians. With the help of agents, the Russian physicians collect the patients from their fatherland, particularly in the German spas, so that the practice of many German spa physicians is notably reduced thereby. For this reason legal assistance was demanded. No definite motion was made, as a legal regulation of the matter would be very difficult. The business committee was instructed to collect material on the question and report on it at the next Aerztetag.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, July 19, 1913.

Personal

Negotiations are going on just now between the senate of the University of Vienna and the Austrian government on one side, and Professor His on the other side, with the aim of obtaining a successor for Professor von Noorden. It is nearly decided that His will accept the call and that he will begin his lectures here at the beginning of the winter term. Professor Mauthner will temporarily control the Medicochemical Institute of Vienna, which is now made vacant by Professor Ludwig's having reached the age-limit of 71 years. As mentioned in a previous letter, Professor Abderhalden had declined the offer made to him to come over as successor of Ludwig and no definite arrangements have been made in this respect.

Visit of American Doctors to Vienna

A group of American surgeons and physicians, with the ladies of their families, have visited Vienna quite recently on their tour through the medical centers of Europe. Altogether sixty-five doctors, including three women physicians, have taken the opportunity of visiting the various clinics, Steinhof, the great hospital for the insane, and the Baden sulphur baths.

The Problem of Free Choice of Doctors in Hospitals

In this country, the position of the profession is seriously affected by the fact that the admission of patients to the wards of the hospitals as well as to the out-patient departments is not so strictly controlled as, for instance, in England or the United States. Thus it happens that frequently persons well able to pay a moderate fee to the private practitioner save this money by applying to one of the public hospitals. If they become in-patients, they pay no more than a small daily fee of about fifty to seventy cents a day for everything. The private hospitals, sanatoriums, as they are called here, are all very expensive and persons willing to pay for medical attendance, but of limited means, cannot well afford them. Therefore, it was an old desideratum of the practitioners that they be allowed to send to the public hospitals private patients who would be willing to pay a higher price for the accommodation than the ordinary hospital fee, but who would have the privilege of being treated there by their own doctor. Attempts have been made by the profession several times to build a hospital with free choice of doctors for persons of moderate income, but these plans have had to be abandoned. The calculations showed that it would be risky. The government and the municipality have taken up the idea, however, although only partly, and have instituted wards in their new hospitals for the better-class patients who can pay more, but cannot choose their doctor. These half-way measures have annoyed the Vienna practitioners greatly, and the medical organization and the Medical Council of Vienna are contemplating a regular boycott against those institutions which work on the above-mentioned lines. The problem is so complicated, especially by the bureaucratic conditions prevailing in all matters of public health and sanitation, that a sane solution of the riddle is at present hard to find, for our public hospitals—mostly state or municipal hospitals—are strictly forbidden by their statutory regulations to permit any doctor outside of the regular staff to treat patients within their precincts. The bulk of the private patients are not able to pay the high rates charged by the private hospitals, apart from the doctor's fee.

Marriages

RALPH DUMPHRY SIMONS, M.D., to Miss Florence T. Hildreth, both of Gardiner, Me., at Dorchester, Boston, July 16.

HARRY MCCRINDELL JOHNSON, M.D., St. Louis, to Mrs. Haymore of Chattanooga, Tenn., at Asheville, N. C., July 16.

WARREN GORDON MCPHERSON, M.D., Bement, Ill., to Mrs. Rothmeyer of Denison, Tex., at Gainesville, Tex., July 10.

ARTHUR BOND CECIL, M.D., Los Angeles, Cal., to Miss Mary Wrightson Caulk of Easton, Md., at Baltimore, July 24.

EMIL STEINKAMP, M.D., Huntingburg, Ind., to Miss Minnie Heichelbech of Haysville, Ind., at Huntingburg, July 15.

FRANK LINDEN RICHARDSON, M.D., to Miss Constance H. Mathey, both of Boston, at Needham, Mass., July 21.

BERT WILLIAM HARDY, M.D., Miami, Ariz., to Miss Molliere Strickler of Marietta, Pa., at Miami, March 25.

WILLIAM L. THOMPSON, M.D., Milwaukee, Wis., to Miss Hazel L. Reeves of Fond du Lac, Wis., July 22.

ROBERT COLUMBUS NICHOLS, M.D., Los Angeles, Cal., to Miss Esther Knoll of Des Moines, Ia., June 26.

CREIGHTON WALTER SKELTON, M.D., to Miss J. Irene Beaman, both of Providence, R. I., June 16.

WILLIAM HARRY CUNNINGHAM, M.D., to Miss Emma B. Eckholm, both of Rockford, Ill., July 22.

ROY M. VAN WART, M.D., New Orleans, La., to Miss May Jones of Bramwell, W. Va., August 6.

WAYNE P. HANSON, M.D., Cheyenne, Wyo., to Miss Nellie C. Snider of Philadelphia, July 23.

BEVERIDGE HARSHAW MOORE, M.D., to Miss Amy Thayer Blodgett, both of Chicago, July 22.

WARNER H. CARITHERS, M.D., to Miss Bessie L. McCormack, both of Moscow, Ida., recently.

JOHN ABRAHAM PRATT, M.D., to Mrs. Harriet M. Bigler, both of Aurora, Il., July 21.

DON VANDERHOFF, M.D., Battle Creek, Neb., to Miss Eva Wheaton of Omaha, July 3.

BURKERT CLARK, M.D., Shandon, O., to Miss Anne Frances Hare of Cincinnati, July 24.

JOSEPH LOUIS BAER, M.D., to Miss Gretchen W. Shattuck, both of Chicago, July 28.

Deaths

Gregory Doyle, M.D. New York University, New York City, 1865; LL.D., Niagara University, Buffalo, 1898; major and surgeon, N. G. S. N. Y., 1872-90; health officer of Syracuse in 1870 and health commissioner of the same city in 1899; local surgeon of the West Shore System; formerly president of the Syracuse Medical Association and of the United States Pension Examining Board; surgeon to the Syracuse Fire Department, House of Providence and St. Vincent's Orphan Asylum; died at his home in Syracuse, July 23, from heart disease, aged 73.

William Henry Evans, M.D. Bellevue Hospital Medical College, 1867; a fellow of the American Medical Association; of Sedalia, Mo.; assistant surgeon of the Eighth Missouri Volunteer Infantry and Thirteenth Missouri Volunteer Cavalry throughout the Civil War; president of the Missouri State Medical Association in 1895; coroner of Pettis County for several terms; died in the Punton Sanitarium, Kansas City, July 20, from heart disease, aged 73.

Frederick August Leusman, M.D. College of Physicians and Surgeons, Chicago, 1889; a fellow of the American Medical Association and American Academy of Medicine; formerly instructor in genito-urinary diseases in his alma mater and professor of clinical and genito-urinary surgery in Jenner Medical College, Chicago; attending surgeon at the German American Hospital; died in St. Joseph's Hospital, August 3, from heart disease, aged 60.

Roderick McLennan, M.D. Trinity Medical College, Toronto, 1887; a fellow of the American Medical Association; for twenty-six years a member of the staff of the Quincy (Mass.) City Hospital; died at his home in South Quincy, July 23, from heart disease, aged 53.

Joseph Hooper Glass, M.D. Jefferson Medical College, 1887; a fellow of the American Medical Association; formerly local surgeon of the Pennsylvania System at South Forks, Pa.; later a resident of California and recently a practitioner of Gallitzin; aged 54; was found dead in his office, July 19, from the effects of hemorrhage due to a puncture of the jugular vein, believed to have occurred while he was opening a boil on his neck.

Samuel A. Bell, M.D. University of Medicine and Surgery, Philadelphia, 1864; acting assistant surgeon, U. S. Army during the Civil War; assistant surgeon in the Army from 1865 to 1869; formerly a member of the Medical and Chirurgical Faculty of Maryland; coroner of Baltimore City County and vaccine physician of Baltimore; died at his home in that city, July 23, aged 71.

Simon Peter Wise, M.D. College of Physicians and Surgeons, New York City, 1871; a fellow of the American Medical Association; a member of the staff of the Ohio State Tuberculosis Sanatorium, Mount Vernon; local surgeon for the Baltimore and Ohio and Pennsylvania systems; died suddenly in his office in Millersburg, July 22, from heart disease, aged 64.

Charles McAllister, M.D. Berkshire Medical College, Pittsfield, Mass., 1865; a fellow of the American Medical Association and a member of the Iowa Association of Railway Surgeons; for many years local surgeon at Spencer, Iowa, for the Chicago, Milwaukee and St. Paul Railway; died at his old home in South Lee, Mass., July 21, from cerebral hemorrhage, aged 73.

William B. Pierce, M.D. College of Physicians and Surgeons, New York City, 1861; for three years a surgeon of volunteers during the Civil War; formerly a practitioner of Buffalo and president of the International Ferry Company; died at his summer home at Fort Erie Beach, May 22, from valvular heart disease, aged 78.

John M. McCormick, M.D. Philadelphia College of Medicine and Surgery, 1848; surgeon of the Third Wisconsin Volunteer Infantry during the Civil War and since 1862 a practitioner of Leavenworth, Kan.; died at his apartments in the Planters Hotel in that city, July 17, from senile debility, aged 87.

George Ransom Westbrook, M.D. Long Island College Hospital, Brooklyn, 1878; a member of the Medical Society of the State of New York; of Brooklyn; for many years a member of the staff of St. Mary's Hospital; died suddenly at his summer home in Benson, Vt., July 19, aged 66.

J. V. Hobbs, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1882; for forty years a practitioner of Houston County, Ga.; for one term a member of the Georgia legislature; a director of the First National Bank of Fort Valley; died at his home, July 15, aged 62.

Owen Herbert Evans, M.D. Hahnemann Medical College, Philadelphia, 1893; a retired practitioner of Cheswold, Del.; aged 49; while crossing the tracks of the Delaware Railroad in his automobile, at Evans Crossing, July 20, was struck by a train and instantly killed.

Jefferson Carvosso Fraser, M.D. Bellevue Hospital Medical College, 1875; formerly of Lee, N. Y., but for twenty-five years a resident of Pasadena, Cal.; at one time president of the Pasadena National Bank; died at his home, July 12, from heart disease, aged 63.

William Willson Buckett, M.D. American Medical College, Indianapolis, 1895; formerly lecturer on dermatology in his alma mater; a veteran of the Civil War; of South Bend, Ind.; died in the St. Joseph County Infirmary, July 14, aged 71.

Thomas Louis Mahoney, M.D. Cooper Medical College, San Francisco, 1888; surgeon of the police department of San Francisco; died at his summer home in Sausalito, Cal., from meningitis, following an infection of the ear, July 11, aged 47.

Horatio O. Brink, M.D. Cooper Medical College, San Francisco, 1887; formerly a practitioner of Santa Cruz and later a practitioner of Berkeley, Cal.; died at the Alta Bates Sanitarium, Berkeley, July 19, from angina pectoris, aged 55.

Albert Arthur Newell, M.D. Western Pennsylvania Medical College, Pittsburgh, 1892; of Crafton, Pa.; for fifteen years a practitioner of Moon Run; died at his home, July 5, aged 59.

Edward Cooney, M.D. College of Physicians and Surgeons, Chicago, 1904; formerly of Appleton, Wis.; died at his home in Brooklyn, N. Y., March 12.

Albert Joseph Quinlan, M.D. Toledo (Ohio) Medical College, 1909; died at his home in Cleveland, July 9, from pneumonia, aged 28.

Vincent H. Gaskill, M.D. Berkshire Medical College, Pittsfield, Mass, 1863; for two years a surgeon in the Navy and for fifty years a practitioner of Fayette County, Ohio; died at his home in Pancoastburg, July 11, aged 70.

Elhanan C. Paslay, M.D. Jefferson Medical College, 1858; president of the Williston (Fla.) Bank and for sixty years a resident of Florida; aged 80; was thrown from a horse at Williston July 19, and died from his injuries.

Joseph C. Wunder, M.D. University of Maryland, Baltimore, 1889; the first to introduce diphtheria antitoxin in Baltimore; died at the State Sanatorium for Tuberculosis, Sabillasville, Md., July 20, from tuberculosis, aged 47.

William Wayne Ashhurst, M.D. University of Pennsylvania, Philadelphia, 1890; for sixteen years a practitioner of Chihuahua, Mexico, and later a resident of University, Va.; died in that place, July 14, aged 46.

Samuel Bloom, M.D. Bellevue Hospital Medical College, 1867; for twenty-one years a practitioner of New York City and later of Riverhead, L. I.; died at his home in Baker, Ore., July 18, aged 68.

William F. Carson, M.D. Eclectic Medical Institute, Cincinnati, 1883; of Alliance, O.; died in the Lakeside Hospital, Cleveland, May 8, after an operation for disease of the gallbladder, aged 57.

Leslie R. Quackenbush, M.D. New York University, New York City, 1880; for several years U. S. quarantine officer at Mayport, Fla., died at his home in Remington, Va., July 9, aged 69.

James Ames Osborn, M.D. Hahnemann Medical College, Philadelphia, 1875; formerly an attorney of Washington, D. C; died at his home in Milton, Pa., July 22, from heart disease, aged 72.

Augustus John Kirsten, M.D. Long Island College Hospital, Brooklyn, 1895; a fellow of the American Medical Association; died at his home in Jersey City, July 25, from heart disease, aged 51.

Alva C. Truitt, M.D. Kentucky School of Medicine, Louisville, 1882; of Sterling, Neb.; died at the home of his brother in Shelbyville, Ill., June 18, from locomotor ataxia, aged 55.

George H. Drake, M.D. Detroit College of Medicine, 1893; a member of the Michigan State Medical Society; died at his home in Pontiac, July 9, from disease of the spleen, aged 45.

Benjamin Rush Wilson (license, Florida, 1872); local surgeon for the Florida East Coast Railway; died at his home in Titusville, July 19, from valvular heart disease, aged 75.

Henry G. Eleaser, M.D. Medical College of the State of South Carolina, Charleston, 1885; died at his home in Spring Hill, July 18, from cerebral hemorrhage, aged 52.

Byron Wilson Griffin, M.D. Rush Medical College, 1876; until 1900 a practitioner of Chicago and Illinois; died at his home in North Yakima, Wash., July 12, aged 67.

H. T. Turner (license, Washington, 1899); for several years resident physician at the Washington Veterans' Home, Port Orchard; died in that institution, July 16.

Andrew Little Fulton, M.D. Bellevue Hospital Medical College, 1870; for many years a practitioner of Kansas City, Mo.; died at his home, July 15, aged 70.

John W. White, M.D. Eclectic Medical Institute, Cincinnati, 1889; a practitioner of medicine since 1870; died at his home in Glyndon, Md., July 22, aged 74.

Hiram C. Fisher, M.D. Medical College of Ohio, Cincinnati, 1868; of Metropolis, Ill.; died at the home of his son in Jonesboro, Ark., July 9, aged 75.

John P. Basham, M.D. University of Arkansas, Little Rock, 1883; of Argenta; died in a hospital in Little Rock, July 15, aged 52.

William Hallock White, M.D. University of Michigan, Ann Arbor, 1884; died at his home in Grand Rapids, Mich., June 15, aged 56.

George W. Garrison, M.D. University of Wooster, Cleveland, O., 1866; died at his home in Utica, O., July 12, aged 72.

Annie M. Hawley, M.D. Hahnemann Medical College, Chicago, 1873; died at her home in Big Sandy, Tenn., May 11.

James Sinclair, M.D. Hahnemann Medical College, Chicago, 1884; died at his home in San Luis Obispo, Cal., July 19.

Stetson L. Bacon, M.D. Jefferson Medical College, 1858; died at his home in Port Norris, N. J., June 22, aged 76.

John Francis Graham, M.D. Baltimore Medical College, 1896; died at his home in Marion, Ind., recently, aged 62.

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The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

THE UNITED DOCTORS

What Has Been Accomplished against This and Similar Concerns—Activity Shown by Courts, Business Men's Organizations and the Newspapers

That organization of counterfeit specialists, the United Doctors, whose methods of preying on and deceiving the sick were exposed in THE JOURNAL, March 1, 1913, is still carrying on its swindling operations in many communities, but we believe that our exposure has already worked much benefit to the public.

Business men's organizations, the courts and legislatures are taking cognizance of the evils of this form of quackery. The legislatures of many states have passed laws to prevent fraud in advertising that will apply particularly to the advertisements of medical quacks.

Business men's organizations, in some instances in connection with public prosecutors, have taken up the investigation of the methods of the United Doctors and other medical advertisers in their respective communities. Among these are the organizations in Wheeling, W. Va., Huntington, W. Va., Trenton, N. J., Johnstown, Pa., Zanesville, Ohio, South Bend, Ind., and Oskaloosa, Iowa.

SOME NEWSPAPER COMMENTS

More newspapers are seeing the light and recognizing the fact that the printing of advertisements that aid in the swindling operations of quack doctors is indefensible. The way a large number of newspapers have commented on our exposure of the United Doctors and similar fraud is both encouraging and pleasing. A few selections may be worth while:

The York (Neb.) *New Teller* recently turned down the advertisement offered by the United Doctors and introduced its comments with this in display type:

"UNITED DOCTORS COMING TO YORK—HERE'S A FREE AD

"LOCAL RETAILERS' ASSOCIATION HAS OPPORTUNITY TO PROTECT PUBLIC FROM GANG OF ORGANIZED GRAFTERS AND PROFESSIONAL RENEGADES

"ARE THE WORST VARIETY OF FAKES, QUACKS AND SWINDLERS—IS THIS PLAIN?

"INVALIDS, USUALLY FROM THE POORER CLASSES, THEIR VICTIMS—NOT A PROFESSIONAL ORGANIZATION BUT A BUSINESS CONCERN—SEPARATING PEOPLE FROM THEIR MONEY ONLY SUCCESSFUL OPERATION."

The editor, in explaining, says:

"'Coming to York, United Doctors, Specialists.' That's the way an announcement received at this office not long ago reads, and considering that they are willing to pay good money to have the fact announced they evidently do not expect to lose by the visit. Fakes is Fakes whatever name they travel under and the United Doctors, Specialists, are of the worst variety because they are willing to extract money from sick people by claiming untold powers in the healing of disease.

"THE JOURNAL of the American Medical Association is a publication intended primarily to interest members of the medical profession and does not have a very wide reading outside the ranks of physicians. Naturally much of the matter contained in its pages is couched in terms which the layman is not conversant with and naturally, too, there is more cheerful literature than descriptions of interesting 'cases.' But every once in a while THE JOURNAL prints things in its columns which everybody can understand and which are decidedly of general interest. In the issue of March 1 there is an article entitled 'The United Doctors, the History and Methods of a Fake Concern of Advertising Quack Specialists.'"

An abstract of the article in THE JOURNAL on the United Doctors then follows and the editor says:

"A few days ago the *New Teller* received an order for advertising which was not accepted. Here is a clause from the matter in question. It seems to indicate that the United Doctors who came to this neck of the woods are at least first cousins of THE JOURNAL'S friends."

The Peoria (Ill.) *Star* of March 14, 1913, in an editorial in which it gives an abstract of THE JOURNAL article on the United Doctors, says in regard to "Phenomenal Kraus" who was the predecessor and instructor of Ben W. Kinsey in the quack business:

"It is to be remembered that some years ago a man under this name came to Peoria and started a general cure-all, stating that he was about to build a large hospital for the amelioration of the afflicted."

After giving the substance of THE JOURNAL article the *Star* winds up by saying of the United Doctors:

"The concern seems to be an ordinary advertising company with no more claim to call themselves specialists than any of the other medical frauds and swindlers which impose on the people."

North Dakota is also a state which has been considered a good harvest field for the United Doctors and quacks of a like kind, and some newspapers in that state appreciate their responsibility in this regard. The Napoleon (N. D.) *Homestead* of March 31, 1913, has the following in regard to the "United Doctors":

"The *Homestead* has repeatedly received advertising matter from this concern for publication at a fair advertising rate but our lack of faith in its claims has caused us speedily to consign same to the waste-basket."

A long abstract of THE JOURNAL article on the United Doctors is then given and the chances are that the United Doctors will give Homestead a wide berth hereafter.

In Jacksonville, Fla., and other cities of that state the "United Specialists" and the "German-American Doctors" have carried on business by methods similar to those of the United Doctors. *Dixie*, a weekly paper with convictions and courage to state them, has waged an unrelenting war on such quack institutions, and through its efforts the licenses of many of these fake "specialists" have been revoked. Among these is George L. Dickerson and five or six members of his staff, who practiced in Jacksonville and other cities under the foregoing names. Dickerson is a notorious quack, formerly of Indiana, where his license was revoked on account of his general quack methods and because he loaned his diploma to his brother, who is not a medical graduate.

The Seattle *Sun*, a daily paper, excludes the advertisements of quacks from its columns and says that newspapers have no more right to permit lying in their advertising columns than they have to print lies in their news and editorial columns, and that newspapers which print quack medicine advertisements know that these advertisements are filled with lies. An account of the work being done by the *Sun* against concerns similar to the United Doctors is given in THE JOURNAL, June 7, 1913. Prosecutions in the courts by swindled patients, action by the county medical society, the persistent efforts of the *Sun* against them and the intention expressed by the public prosecutor in Seattle to prosecute these swindlers under the recently enacted law in Washington to prevent fraud in advertising have already done much to cripple their activities and will no doubt drive them from Seattle.

The Johnstown (Pa.) *Tribune* does not, if it knows it, accept misleading medical advertising, such as that of the United Doctors, and in the issue of March 6, 1913, during the time the United Doctors and similar institutions were under investigation by the Johnstown Chamber of Commerce, in a long editorial it says, among other things:

"It is our opinion that the so-called 'institute' doctors advertising to catch the chronic invalid, failing to attach names and identities to their advertisements, calling attention

to superior equipment, and promising cures, are, as a rule, unworthy of the profession of medicine and not to be entrusted with that confidence which should prevail between doctor and patient. . . . It is utterly without warrant to assert that any combination of doctors, 'institute' doctors or otherwise, have or could have any greater degree of success than the faithful and competent men who answer to the call of the sick and injured, day after day, night after night, during the best years of their lives." The *Tribune* believes that "it has a duty to perform in warning individuals against the persuasive qualities of medical advertising" and "it does believe, and says so, that there are large opportunities for deception in permitting the publication of uncensored advertisements of doctors who withhold their names from their announcements."

ACTION BY LOCAL COURTS

The action of local courts against the United Doctors in various places is illustrated by two instances from Texas.

At Quanah, Tex., G. Schreiber of Kansas City according to the Quanah *Tribune*, was arrested and fined before Judge Bannister for illegal practice of medicine. The *Tribune* says:

"Schreiber belongs to the celebrated firm of United Doctors. They have been doing considerable advertising hereabouts and claim to be able to cure any and everything. County Attorney Crowder, who tricked this rascal, gives a very good idea of the methods these quacks pursue."

It is then described how the county attorney sent the deputy sheriff, a perfectly healthy young man, to the United Doctors complaining of some slight illness. After a pretended examination Schreiber proceeded to try to frighten the young man into the belief that unless he took a course of Schreiber's treatment, he would soon be in a hopeless condition. The officer excused himself on the plea that he would go and get the money. On his return Schreiber was arrested. Two other doctors with Schreiber succeeded in getting away before warrants could be served on them. The *Tribune* then says:

"It is said that there are over 200 of these 'specialists' working Texas at present and we hope the example set at Quanah will be followed all over the state and the rascals driven out before they have been able to harm too many people."

At Lockhart, Tex., W. D. Rea and G. W. Bourne, two traveling representatives of the United Doctors, were recently arrested for illegally practicing medicine. After the usual newspaper announcement of "free consultation" and "free treatment, except for the cost of medicines," they arrived in Lockhart, and a healthy man was sent to consult them. They declared that he had diabetes and could not live six months unless treated by them, for which they demanded $45 cash. Complaint was filed by the public prosecutor and on their conviction a jail sentence of one hour and a fine of $50 were imposed. They agreed to leave the state and canceled their arrangements in other cities in which they had advertised their coming. An account of this was printed in the Austin (Tex.) *Statesman*, Feb. 19, 1913.

PROSECUTIONS AT JOHNSTOWN, PA.

According to the Johnstown *Daily Democrat*, May 17, 1913 (following investigation by the Johnstown Chamber of Commerce), "charges of illegal practice of medicine were preferred yesterday afternoon against L. D'Urville Chabut, John E. Byrne and Harold Jackson, doing business here under the name of the United Doctors." Inquiry of the State Bureau of Medical Education and Licensure brought the reply that none of the above-named men was licensed to practice medicine in Pennsylvania. Jackson and Byrne were then arrested, but Chabut, it is said, left Johnstown before the warrant could be served, and a Dr. Kaufman, having a state license, was hurriedly brought to the Johnstown office. At the hearing before the magistrate, conducted by the district attorney, Byrne swore that he was not posing as a doctor, but was only a clerk, and Jackson put up a like defense, that he was the business manager.

In the *Daily Democrat*, May 23, and subsequent issues, Harold Jackson as business manager printed a number of articles (evidently paid advertisements, though not so marked as required by law) in which he attacked the American Medical Association "and its inner workings." He presented the usual twaddle of the League for Medical Freedom as to the American Medical Association being a "doctors' trust," and otherwise showed the most profound ignorance in regard to its organization. One of these articles is signed by our friend of the many aliases, Dr. L. F. Elston, now manager of the office of the United Doctors' office in Trenton, N. J., as "member of the Trenton Chamber of Commerce." Inquiry brought the reply that Elston joined the Trenton Chamber of Commerce as an individual, but it is safe to say that Elston's attempt to use the name of the organization to lend respectability to the methods of the United Doctors will not be relished by the Trenton organization or approved by it.

Concerning the foregoing series of articles by the United Doctors the South Fork *Record* (May 29, 1913), published in South Fork, a small city near Johnstown, has this to say:

"During the last week the Johnstown papers have given much space to attacks on the American Medical Association or, as they are pleased to call it, 'the Medical Trust,' which have a tendency to mislead the public, or at least make them forget for a time, usually a very short time, their good family doctor. It is said that the 'stuff' referred to has been running as paid advertising, but it has not been marked as such and therefore one cannot be blamed for holding the opinion that it is printed as news or opinions of the various editors. Why they take such a stand is another matter. The charges contained in these articles are too absurd to repeat, except that they intimate that all doctors affiliated with the American Medical Association are banded together to hoodwink suffering humanity. If such were the case this country would be in a bad state."

TROUBLE IN THE UNITED DOCTORS' CAMP AT TRENTON

At Trenton, N. J., according to the Trenton *Times*, the "specialists" of the United Doctors have been having trouble among themselves. Dr. L. F. Elston is the manager. He was formerly at Wheeling, W. Va. Herman Spangler was employed as a "specialist" in the Trenton office. On account of some difficulty with Elston, Spangler left him, opened an office of his own near the office of the United Doctors, and employed the same advertising methods, testimonials, etc. On a warrant sworn out by Elston, Spangler was arrested for stealing certain medicines, bottles, labels and other property from the office of the United Doctors and was also accused of practicing medicine illegally. At the hearing it was brought out and admitted by Spangler that he was a graduate of an alleged osteopathic school in Chicago and had no New Jersey license of any sort. He had removed the word "Osteopath" from his sign and was practicing regular medicine. He was sent to jail, but was later released on bail. Spangler is a specimen of the men employed by the United Doctors, and this incident still further elucidates their methods in swindling the public.

The deeper the inquiry goes into these quacks and their methods, the more sordid is the mess which is disclosed. Lying, cheating, false representation, evasion, the breaking of statute and moral law, false pretense and the robbing of the victim of both his money and, in many instances, his chance for life, make up the sum of the activities of the quack.

TRUAX, GREENE AND COMPANY—AN EXPLANATION

The letter that follows explains itself and in justice to its writer we are pleased to publish it. Truax, Greene & Co. are a corporation, having, we understand, the following officers: Charles B. Munday, president; John K. Fegrave, vice-president; B. H. Coddington, secretary and treasurer.

To the Editor:—My attention has been called to an article which appeared in the Propaganda for Reform department of THE JOURNAL, July 26, 1913, referring to certain advertising methods indulged in by Truax, Greene and Company. In justice to myself I wish to state that being a minority stockholder, and unable, after the death of Dr. F. C. Greene, to control the management of the corporation, and being dissatisfied with the conduct of the same, on Dec. 1, 1911, I withdrew from active management, and disposed of my interests at a great financial sacrifice. CHARLES TRUAX, Chicago.

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Correspondence

Von Ruck's Vaccine

To the Editor:—In THE JOURNAL of June 21, page 1936, there appears an article by R. S. Cummings, purporting to show his results in controlling some of my animal experiments, with a conclusion that immunity was not produced by my vaccine, and suggesting the possibility that the treatment had increased the susceptibility of the animals to the acquirement of tuberculosis.

Were it not for the wide circulation of THE JOURNAL, Dr. Cummings' results would receive no notice whatever from me, for the simple and all-sufficient reason that the author has not followed my method and my technic, and indeed persisted in ignoring them, although I had particularly cautioned him against doing so in letters written to him on Aug. 30 and Sept. 3, 1912.

In his letter to me dated Aug. 23, 1912, Dr. Cummings proposed to immunize his animals with a certain number of doses of my vaccine, to be given at certain intervals; and thereafter to infect them, together with a number of controls. In response I cautioned him in my letter of Aug. 30, 1912, stating that if he desired to control my experiments, it would be necessary to follow my method; and in a further letter, dated Sept. 3, 1912, I offered to arrange the experimental procedures, so as to cover all necessary precautions and details, to the end that the eventual publication of his results would be of value. From a standpoint of fairness, it was unconditionally incumbent on him, in reporting his experiments, to mention that, contrary to my insistence on it, he had not followed my method of dosage and had infected his animals without applying the tests that I considered essential in order to know that a sufficient degree of immunity had been induced by the preliminary treatment.

I likewise pointed out to him that these investigations required skill and facilities and I offered him a place in my laboratories, stating that I considered it time wasted to undertake such studies without the proper qualifications. My letter closes with the following paragraph:

"If I can help you in any way, please let me know how I can serve you, but do not assume immunity in animals until you have proved it by complement-fixation tests which should show binding with t. b. emulsions and fats used as antigens."

No further communication was received from Dr. Cummings until the arrival of a letter dated April 24, 1913, when he informed me of his results and requested a reply concerning them. In my answer I asked him for a copy of his protocols, but he has not seen fit to send these to me.

If Dr. Cummings, in spite of my caution and request, proceeded to ignore my methods and my technic and infected his animals after an arbitrary number of doses, assuming immunity on their part without demonstrating this in the manner demanded by me in emphatic language, he should at least have drawn different conclusions from his results than he did. My own conclusions are that he confirmed my experience as given on page 18 of my Laboratory Report 1, of June 1, 1912, where I stated that repeated doses of from 1 mg. to 10 mg. were found necessary during a period of six weeks to produce sufficient protection in guinea-pigs; and that my request to examine for complement fixation with at least the most important antigens, before infecting his animals, was well founded.

I wish to emphasize once more that, to insure the presence of immunity in an experiment animal the same as in the human subject, the respective serums must be tested for complement fixation with the several partial antigens and with tubercle bacilli emulsion, and these serums must also show bacteriolytic power *in vitro*. Further, the respective blood specimens must be taken in the positive phase, that is, at a time of coincidence of the several partial amboceptors, and if necessary the examinations must be repeated on successive days until such coincidence is in evidence, as illustrated in Tables 1, 2 and 3 of my first report. Such lytic serums destroy the virulence of tubercle bacilli *in vitro* and, if demonstrated in the experiment animal, they will afford complete and absolute protection against virulent infection. If, after repeated examination of its serum an animal under treatment shows only partial immunity or none at all, the treatment must be continued and eventually the serum must be reexamined.

Although I am desirous of having my work controlled by competent men, and am ready to afford every possible assistance for such control work, I must insist that the only fair test and the only test likely to give results that are at all of value, is one in which my own mode of procedure is followed implicitly.

KARL VON RUCK, M.D., B.S., Asheville, N. C.

[The preceding letter was shown to Dr. Cummings, whose reply follows:]

To the Editor:—In my article referred to above by Dr. von Ruck, I published exact details of my experiments, and the conclusions that I drew were that the experiments, as I made them, afforded no evidence that immunity was produced, but rather that there was increased susceptibility to infection by reason of the vaccination. I made no claim to having used the complement-fixation test as a criterion of immunity, and those who are interested must decide for themselves whether or not the test is an essential procedure in these immunity experiments. I did not feel—and the staff of the Barlow Sanitarium agreed with me—that the complement-fixation test offered sufficient promise to employ it, and we were not sufficiently impressed by Dr. von Ruck's laboratory tests to be induced to carry them out.

In one of his letters to me Dr. von Ruck makes the following statement:

"With ten successive doses that you have given, we have never yet had an animal that did not show immune bodies, and that did not for a long period outlive the controls."

It will be noted that I vaccinated my guinea-pigs ten times at weekly intervals.

As to the quantity of vaccine used by Dr. von Ruck, he wrote:

"We find that in guinea-pigs the size of the dose makes very little difference. We usually give 0.1 c.c. for the beginning dose, and in some of the animals increase, while in others we continue the same dose, giving the doses a week apart. We find that the animals with increasing doses do not obtain their immunity any sooner than those in which the quantity is not increased, so that the probabilities are that with 1 c.c. you could immunize a guinea-pig."

In my experiments 0.1 c.c. of the vaccine was used for each injection.

I asked Dr. von Ruck how I could obtain his vaccine for the experiments. He kindly referred me to the Bacteriotherapeutic Laboratory, and I bought the vaccine from the laboratory for $1.50 per cubic centimeter. There seems to be no doubt, therefore, that it was the correct product.

As far as I can see, Dr. von Ruck's directions were carried out fully, excepting that I did not test the animals by the complement-fixation test, but Dr. von Ruck says that immune bodies never failed to appear with ten injections of the vaccine. There is no apparent reason, therefore, why my animals did not become immune, when Dr. von Ruck says that his animals became immune so uniformly with the same number or fewer doses of vaccine.

We feel quite satisfied that immunity to infection with tubercle bacilli is not to be gained by vaccination with extracts of the bacilli, and that Dr. von Ruck's vaccines have probably the same value as other tuberculin products.

In conclusion, I would say that this investigation was an independent one, and that I did not feel the need of supervision by Dr. von Ruck in his laboratory, and that if confirmation of his results is forthcoming, the work must come, as in other similar instances, from other laboratories and from independent workers.

R. S. CUMMINGS, M.D., Los Angeles, Cal.

Credit for Discovery of Organism of Parinaud's Conjunctivitis

To the Editor:—In reply to Dr. Verhoeff in the August 2 number of THE JOURNAL, I submit a copy of a letter sent me by Dr. Alburger after sending him the slide that Dr. Verhoeff submitted to me:

June 5, 1913.

My Dear Doctor Keiper:—The slide from Dr. Verhoeff presents much the same picture that those prepared by us showed, but it is stained differentially to show the structure of the micro-organisms rather than the general histologic picture. In this section there seem to be a great many more of the fungi than in the areas we studied in your specimen. It is without doubt the same condition and seems to be the same organism. HENRY R. ALBURGER.

Dr. Alburger may be mistaken, but he is a mighty good pathologist. GEORGE F. KEIPER, M.D., Lafayette, Ind.

Theft of a Microscope

To the Editor:—Some time ago a microscope was stolen from my office and never has been found. It has occurred to me that if THE JOURNAL will post the numbers of my microscope and objectives, possibly this may lead to their recovery. They are: Spencer microscope No. 16082, 16 mm. objective No. 37389, 4 mm. objective No. 19435, 1.8 mm. objective No. 35376.

F. B. NATHER, M.D., 524 Hutton Bldg., Spokane, Wash.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DETERMINATION OF SODIUM BROMID AND SODIUM CHLORID IN THE URINE

To the Editor:—Please give the method of Wyss for the quantitative determination of sodium bromid and sodium chlorid in the urine. See Wyss "Die Pharmakologischen Grundlagen der Bromtherapie bei der gemeinen Epilepsie" in *Deutsch. med. Wchnschr.* Feb. 18, 1913, pp. 345-348.

JOHANNES WEISS, South Auburn, Neb.

ANSWER.—Wyss describes a modification of the process of Hondo as follows: 200 c.c. of the well-mixed urine is evaporated to dryness with the addition of sufficient sodium bicarbonate to make it alkaline. The residue is dissolved in water, filtered and the filtrate evaporated to dryness in a nickel crucible. The residue is incinerated and the ash fully extracted with boiling water. The filtrate should be colorless or of a slight yellowish color. If it is not, the evaporation to dryness and incineration should be repeated. The dry residue is dissolved in water and placed in a 100 c.c. cylinder and filled to the mark with distilled water. This solution should be well shaken and 25 c.c. transferred to a large flask; 25 c.c. of distilled water should be added, which serves to wash out the pipet. The liquid should be neutralized with dilute sulphuric acid, 2 to 3 gm. of potassium bichromate are added and 3 c.c. of concentrated sulphuric acid. The bromin evolved is led by a strong current of air into a series of three cylinders of which the first contains 10 per cent., the second 5 per cent. and the third 2 per cent. solution of potassium iodid in distilled water. The iodin set free is titrated with solution of sodium thiosulphate. No chlorin goes over with the bromin. In treating blood or organs by this process, 5 c.c. of concentrated sodium hydroxid solution are added to the sodium carbonate (*Arch. f. exper. Path. u. Pharmakol.*, lv, 263).

DISTINCTION BETWEEN HOSPITAL AND SANATORIUM

To the Editor:—Please explain in detail the distinction between "hospital" and "sanitarium." The two are becoming somewhat fused together in the mind of the public, but in reality there should be a difference—at least, there has been a difference.

W. L. B., West Cliffe, Colo.

ANSWER.—The term "hospital" originally meant a place for exercising hospitality to the poor and sick. Now it means a place for the care and protection of the sick. It is thus a general term which may include several varieties. Thus we speak of hospitals for the insane although their inmates are not sick in the ordinary sense. As ordinarily used the term "hospital" denotes an institution for the care and treatment of the acutely sick or wounded.

"Sanitarium" or "sanatorium" derives its use from the salubrity of the location and from the use of remedies peculiar to the locality. They were primarily founded near springs or in some place that presented climatic advantages. Hence the term is applied to institutions where the natural or physical remedies are especially applied. As these are used chiefly in chronic cases the term "sanatorium" has come to mean chiefly an institution where chronic ailments are treated by non-medicinal and non-surgical remedies. Of course, in the use of these words exact distinctions cannot always be maintained and the sanatorium is often called a private hospital and vice versa. The term "sanatorium" has largely replaced the form "sanitarium" although the latter is preferred by some lexicographers.

ACUTE LYMPHATIC LEUKEMIA

To the Editor:—Please advise me concerning the treatment of a child 9 years old affected by (acute?) lymphatic leukemia. The disease developed slowly, beginning two months ago with paleness, a few ecchymoses and epistaxis, temperature high, organs normal; blood count: white 62,000, red 3,600,000; differential, leukocytes, polymorphonuclear, 3 per cent.; mononuclear, 97 per cent.; hemoglobin, 45 per cent.

Benzol (5 minims every four hours) has been suggested. Please let me have your opinion on use of benzol and some other therapeutic suggestion. R. RUGGIERI, Norfolk, Va.

ANSWER.—The description is undoubtedly that of a case of acute or subacute lymphatic leukemia. Unfortunately all remedies have met failure in combating this pernicious disease. It is, in all probability, an acute infection, and the measure which will best combat the infection is the rational treatment. Both the Roentgen ray and benzol treatments have been of questionable service in this acute type of leukemia. Better results have been reported from the use of arsenic in full doses—Fowler's solution—increasing the dosage one drop a day until the physiologic symptoms are produced and then going back to a small dose and again gradually increasing. Injections of the cacodylate of soda (½ to 1 grain a day) have also been beneficial in some cases. Should the glands become much enlarged and the case become more chronic in character, the use of the Roentgen ray two or three times a week may be tried.

STIMULATING, SEDATIVE AND RELAXING EXPECTORANTS

To the Editor:—Please explain the following terms as applied to expectorants: stimulating, sedative, relaxing. Do these apply to their effect on secretion, cough or circulation? Please name the drugs used to increase secretion, decrease secretion, and to stimulate cough. F. F. A., Michigan.

ANSWER.—Expectorants may be divided into the sedative or nauseating expectorants which produce relaxation of the bronchial blood-vessels and increase of secretion and the stimulating expectorants which tend to restore tone to dilated blood-vessels. The terms apply to the effect on secretion which is secured by the action on the circulation. The nauseating expectorants include lobelia, tartar emetic, ipecacuanha, potassium citrate, apomorphin hydrochlorid, carbonates, iodids, pilocarpin, ammonium salts, digitalis and squills. The stimulating expectorants include tar, creosote, turpentine, the oils of santal, copaiba, cubebs and eucalyptus, the balsams of Peru and tolu, and atropin and the acids.

CALCIUM LACTATE IN HAY-FEVER AND URTICARIA

To the Editor:—In THE JOURNAL of July 12, 1913, page 158, Ref. 164, a "suspension of calcium lactate," which a hay-fever patient has been taking, is spoken of.

1. Why is a "suspension" referred to?
2. How much calcium lactate was contained in each "level teaspoonful"?
3. Would calcium lactate be apt to have any influence in urticaria?

C. A. KERNER, M.D., Racine, Wis.

ANSWER.—1. Januschke evidently intends giving the salt in powder form, mixing it with enough water so that it can be swallowed.

2. He states that a level teaspoonful holds about 2.5 gm. of calcium lactate, containing about 0.5 gm. of calcium, and that a slightly heaping teaspoonful holds 3.5 gm. of calcium lactate, containing 0.7 gm. of calcium. It is unnecessary to state that this is a rather uncertain method of dosage. Many pharmacologists believe that the calcium salts are absorbed to so slight an extent that they do not produce any appreciable therapeutic results.

3. Calcium lactate is claimed by some to have a decided therapeutic influence in urticaria.

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Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

PUBLIC HEALTH LAWS ENACTED DURING THE LEGISLATIVE SESSION OF 1913

During the winter of 1912 and 1913 the legislature was in session in forty-two of the forty-eight states. While the tendency to multiplication of legislation in all directions has been marked for a number of years past, the unusually large number of bills on public health topics introduced in the various legislatures during the past winter can be justly regarded as an evidence of the increasing interest in public health matters. It can also be regarded, however, as an evidence of the sublime faith which the American people, and especially the state legislatures, have in the reforming power of law. Apparently, the accepted belief in most of our state legislatures is that improvement in any condition can be secured by enacting a law on the subject. In no other way can one account for the introduction in the legislatures of the enormous number of bills on public health during the past winter. It is impossible to estimate accurately the number of such bills, but there were certainly over eight hundred, and probably nearer a thousand.

The vast majority of these measures found a resting-place in the pigeonholes of the various committees to which they were referred. This is fortunate, since many of them were hastily and carelessly drafted or were prepared for the promotion of some special scheme or sect rather than for general good. One important lesson which can be learned from careful observation of state legislatures and their work is that a hastily or carelessly drafted bill, even if enacted into a law, is worse than no law at all and that the organized medical profession of the country should set an example of moderation and judicial care in the preparation of such bills as they may endorse. Far too much of our public health legislation is hastily drafted and planned on narrow lines. Fewer laws and more care in their preparation would advance the cause of public health far more rapidly than the present methods.

Space will not permit comment even on all of the bills which become laws. It is desirable, however, to comment on some of the more important. Taking up the new laws by states, Arizona adopted new laws regulating the practice of medicine, surgery and osteopathy, the practice of dentistry and the practice of pharmacy and the sale of poisons.

California, after long and bitter discussion of a few of the thirty-eight bills for the regulation of the practice of medicine and various pseudomedical sects, finally adopted a bill repealing the previous law and attempting to regulate the treatment of the sick on rather novel lines. Two classes of practitioners under two classes of licenses are provided for. The first form of license is unlimited and requires a minimum of 4,800 hours of college work in not less than four years of thirty-two weeks each. The second, or limited, class of practitioners, who are not allowed to use drugs or perform surgery, are required to present only half of the minimum requirements of the first class. This bill is evidently an attempt to reconcile the absurdity of separate boards and standards with the evident desire of the public and the legislators to permit the various pseudoscientific sects to practice their calling.

Colorado adopted a pure-food law and a new law for the control of tuberculosis, a vital subject in that state on account of the number of tuberculous invalids who go there from other states. A marriage law, requiring a physical examination and a health certificate as a prerequisite to a marriage license, was also adopted.

Florida adopted a nurses' registration bill. Idaho amended her food laws and poison laws. Illinois amended the tuberculosis sanitarium act and the trained nurses law. A bill providing for a state epileptic colony was passed and also a hospital bill, giving cities the right of eminent domain for obtaining hospital sites and the right to borrow money on future tax levies in order to raise funds for the erection of hospitals. The state failed to legislate on vital statistic registration. Indiana enacted a number of laws, mainly intended to build up and strengthen the excellent public health organization in that state. The housing law and the law authorizing counties to build tuberculosis hospitals, a law placing the regulation of water supply under the State Board of Health, and the law providing for sanitary school houses are the most important.

Iowa adopted a working men's compensation act, a bill reorganizing the State Board of Health, and an amendment to the Medical Practice Act.

Kansas achieved the unenviable distinction of being the first state to create a separate board of examiners for chiropractors. This state also adopted an osteopathic law, a law legalizing the sterilization of habitual criminals, and laws amending her pharmacy and vital statistic laws.

Maine created a Board of Charities and Corrections, enacted a law regulating the sale of habit-forming drugs, eliminated the word "insane" from the official title of its state hospitals and provided for voluntary commitment of persons suffering from mental disorders.

Massachusetts enacted a number of measures strengthening its pure-food regulations, increasing the powers of the State Board of Health regarding contagious diseases, and authorizing county bacteriologic laboratories. It appropriated $50,000 for a leper hospital and authorized cities and towns to provide meals for schoolchildren. It also appropriated $1,000 to investigate poliomyelitis.

Michigan created a commission for a sanitary survey to obtain definite statistics as to the number of defectives in the state. This commission is to investigate the defectives in the state institutions and elsewhere and report to the legislature in 1915, the report to be a basis for further legislation. The medical practice act was amended by the adoption of a practically new law. Sectarian distinctions have been largely eliminated and all those who desire to treat the sick are required to qualify as practitioners of medicine. A law authorizing the sterilization of habitual criminals and incurable defectives, and a law establishing an epileptic colony, were also adopted. The State Board of Health was given power to prevent ophthalmia neonatorum and was also given jurisdiction over city water supplies throughout the state, whether owned by municipalities or by private corporations. A state commission on hotel sanitation has been created, composed of the state labor commissioner, the pure-food commissioner, the insurance commissioner and the secretary of the State Board of Health.

Missouri has placed all the charitable and state institutions under the Board of Charities and has adopted amendments to the factory inspection laws and laws regulating occupational diseases and the employment of women. Montana has passed a nurses' registration act. Nevada passed an optometry law. New Hampshire has authorized the appointment of physicians to promote the physical welfare of schoolchildren.

The New York legislature adopted the Walker bill to regulate the sale of habit-forming drugs, by the usual restrictions on druggists and physicians. Workshops for tuberculosis convalescents are provided for, also the supervision of the physical condition of schoolchildren by nurses and physicians selected by the board of education. Women compelled to undergo physical examination in obtaining employment are to be examined only by women physicians. The standard of the practice of medicine has been raised. District school-boards are authorized to employ physicians for medical school supervision. The sum of $150,000 was appropriated for the destitute blind of New York City who are not inmates of any institution. The most important law passed, however, was the Seeley bill, reorganizing the state department of health. This bill was one of the administration measures of Governor Sulzer. The state department of health is made, for the first time, an actual executive department of the state government and its powers and responsibilities are largely increased.

Oklahoma adopted a law for the registration of nurses, also one requiring a physical examination and a health certificate as a condition of marriage.

Oregon adopted a number of measures, principally amendatory and intended to strengthen the health machinery of the state. A sterilization law was enacted, applying to imbeciles, feeble-minded persons and confirmed criminals. Probably the most conspicuous law adopted in this state was that forbidding the advertising of cures for venereal diseases in newspapers and making the newspaper proprietor or publisher equally liable with the advertiser.

Pennsylvania has required every borough and first-class township to appoint a board of health and to provide funds for its maintenance. The local boards are required to enforce the directions of the state Commissioner of Health and members of local boards failing to do so may be dismissed by the state Commissioner of Health. Laws for the prevention of ophthalmia neonatorum, for the examination of midwives, for the establishment of a village for feeble-minded women and for the increase of the power of the state food commissioner were also adopted. A law forbidding the intermarriage of persons afflicted with certain infectious diseases and requiring a health certificate as a condition for marriage licenses was likewise enacted. Pennsylvania is the first state to respond to the recent agitation regarding the danger of the indiscriminate sale of bichlorid of mercury. A law has been enacted prohibiting its sale under a heavy penalty except on the prescription of a physician.

North Dakota adopted a large number of laws ranging from the disinfection of second-hand furniture to the adoption of a resolution asking Congress to create a national Department of Health. Laws regulating tuberculosis, the sale of diseased meat, the use of snuff, requiring sanitary conveniences at railroad stations, providing for a sanitary survey of tuberculosis in the state, defining the duties of county health officers and providing for the regulation of marriage licenses, were enacted.

North Carolina has extended vital statistic registration through the entire state in a law conforming in general to the model law of the American Medical Association, $8,500 was appropriated for public health work and the employment of whole-time county health officers was authorized.

Rhode Island provided for factory inspection and for the regulation of child labor, forbade the distribution of free samples of medicine, and amended its quarantine laws.

In Tennessee, before the legislature became deadlocked, the model vital statistics bill was enacted.

Texas has forbidden the pollution of streams, has provided for a tuberculosis commission and for a lunacy commission in counties. It also created a state child-welfare bureau, regulated the hours of women in factories and has authorized counties to erect hospitals.

Vermont has adopted a number of amendatory health regulations, the principal one being an act making venereal diseases reportable.

Washington has increased the appropriation of its state board of health and has authorized counties to erect hospitals.

West Virginia has amended its state board of health act, providing for a whole-time state health officer and increasing the power of the board.

Wisconsin has authorized the condemnation of insanitary school-buildings, the employment of visiting nurses by county boards, the holding of an annual conference of local health officers, the requirement of a health certificate for a marriage license, the reporting of ophthalmia neonatorum, the restriction of the sale of habit-forming drugs, and the prohibition of dry-sweeping in public places. It has also passed laws permitting incorporated cities to use money derived from licenses in the prevention of disease, making venereal diseases reportable, providing for a state survey of the character of the water-supply of towns and villages, reorganizing the state board of health and appropriating $40,000 for its work and a law legalizing the sterilization of criminals.

Wyoming amended its pure-food law and adopted a bill regulating the sale of habit-forming drugs.

Medical Education and State Boards of Registration

COMING EXAMINATION

NEBRASKA: Lincoln, August 13-14. Sec., Dr. C. P. Fall, Beatrice.

A Layman's View of Medical Education

The following editorial, headed "For Truth's Sake," appeared in the Fresno (California) *Republican*, May 17, 1913. It is worthy of being reproduced here.

"The announcement of a gift to the University of California which will establish on the Pacific coast an institution for medical research comparable only to the Rockefeller Institute in the East, means a great deal to California and to the science of medicine. Schools for the education of physicians already exist in more than sufficient numbers and are turning out more than enough young physicians to care for its sick. But while there is plenty of medical instruction in the sense of imparting existing knowledge to those who shall apply it in practice, there is a very great deficiency in the endowment of medical research. Physicians who know how to apply existing knowledge are numerous enough, but the knowledge itself has limitations and defects of which no one is more keenly conscious than intelligent and well-educated physicians.

"The sudden realization of this fact is what produced the Rockefeller Institute. Rockefeller's infant grandson had just died of a common infantile complaint. The elder Rockefeller had given *carte blanche* to provide for the child the exclusive attention of the most expert specialists. In spite of this the child died, and when the grieving grandfather attempted to cross-examine the physicians he was astounded to find them ignorant. When they answered that they did not know, he inquired, 'Who does know?' Their answer was, 'Nobody!' 'Why don't they know?' was the next inquiry. 'Because no one has yet gone through the necessary researches to find out,' was the reply. 'Why haven't they done so?' 'Because it costs money and time, and nobody has yet devoted it to this particular subject.' Of course Rockefeller immediately provided the necessary funds, and great progress has since been made. Another such institution on the Pacific Coast should be the precursor of still further discoveries.

"There are three important branches of medical education. First is this research work to find out medical truth. Second is the training of physicians to put this truth in practice. Third is the education of the people to recognize the difference between medical science and medical charlatanry. The last is perhaps the most difficult of all. When the educated physician confesses his ignorance and his helplessness and the uneducated physician proclaims his knowledge and his infallibility, it takes some education on the part of the people to realize that the humility of true knowledge is superior to the arrogance of pretense. Possibly the very existence of an institution for the discovery of medical truth rather than for the training of practitioners, will help also in preparing the minds of the public to accept the truth when known, and to realize that there are no sects or schools of scientific knowledge."

Medicolegal

Requirements to Recovery from County for Services

(*Ruan vs. Mahaska County (Ia.), 137 N. W. R. 1003*)

The Supreme Court of Iowa affirms a judgment holding that the plaintiff, who was the duly appointed general health physician of the township of Garfield, was not entitled to recover for certain services rendered to a family that was afflicted with diphtheria, because the requirements of the state statute had not been complied with. The court says that the plaintiff was directed by the chairman of the board of trustees of the township to attend the family, which he did, and duly presented his bill for such service to the township trustees, who allowed the same, after which it was presented to the board of supervisors of the county for payment, which refused

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to allow it. There was no controversy over the amount that such be paid, if the county was liable at all; but at the time of the employment of the plaintiff as stated the township trustees had held no meeting at which it was determined that the family in question should be quarantined, or that it was a proper subject for public assistance, and apparently there never was a quarantine. No written order authorized the plaintiff to furnish such service was issued until after the service had been rendered. The only approval and certification of his bill by the township trustees was by signing their names on the back thereof, accompanied by the oath of the township clerk that the same was just and true and wholly unpaid.

Chapter 156 of the acts of the Thirty-Third General Assembly repealed several sections of the supplement to the Iowa code of 1907, and among other provisions enacted the following: "All bills for supplies furnished and services rendered by order of the mayor or township clerk as herein provided . . . or for persons financially unable to provide for their sustenance and care, shall be allowed and paid for only" on a certain basis therein specified. And then it is provided that "all services and supplies furnished to individuals or families under the provisions of this section must be authorized by the local board of health, or by the mayor or township clerk acting under standing regulations of such local board, and a written order therefor designating the person or persons employed to furnish such service or supplies, issued before said service or supplies were actually furnished, shall be attached to the bill when the same is presented for audit and payment." It is further provided in said chapter: "All bills and expenses incurred in carrying out the provisions of this section . . . shall be filed with the clerk of the local board of health. This board at its next regular meeting or special meeting called for the purpose shall examine and audit the same and, if found correct, approve and certify the same to the county board of supervisors for payment."

It is very evident that the requirement that a written order for the performance of the service, issued before said services are actually furnished, is a mandatory requirement placed in the law for the protection of the public funds. It is a new provision in the law, clearly put there for a purpose. Were the court to construe it as the plaintiff contended it should be construed—that is, that the order may be issued at any time, so long as it is finally filed with the county—the court would have to annul the section by disregarding plain and unambiguous language, and this it has no authority to do. It is a simple requirement which can easily be complied with, if the proper officers pay any attention to the requirements of the law in these cases. No reason was shown why it could not have been complied with in this case, and the court is of the opinion that the trial court correctly held that there was such a disregard of the statute in this respect as to defeat recovery.

Nor was the mere signing of their names by the trustees on the back of the bill a certification of the same to the board of supervisors.

Expert Witnesses Receiving Compensation

(Jacoby vs. Brooklyn, Queens County & Suburban Railroad Co. (N. Y.), 138 N. Y. Supp. 486)

The second Appellate Division of the Supreme Court of New York comments on the fact that all of the witnesses who testified in this personal injury case as to an alleged fracture or partial fracture of the plaintiff's pelvis were in a sense feed retainers of their respective sides, save the family physician of the plaintiff, and he doubtless had either received his professional fee or was in expectation of it, because it says that the criticisms and often hypercriticisms which are leveled at experts—that they are paid witnesses, chosen only after their favorable opinions are ascertained, who testify free from the perils of perjury, secure in opinions which are essentially matters of their special knowledge—could not obtain in this case, or at least were impartially applicable. There is no good reason why an expert whose relations to a case are purely professional, and whose competency exists perforce of his profession, should not be compensated, or why the fact of such compensation should of itself discredit him. So long as the present procedure as to expert witnesses is in force, the criticism on it should not be directed to the individuals who by it alone must be brought to the witness stand.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Urology, New York

July, IX, No. 7, pp. 333-372

1 Ectopia Vesicae. K. Brandl, Deggendorf, Germany.
2 Case of Renal Tuberculosis. G. S. Gordon, Vancouver, B. C.
3 Renal Gonorrhea. C. M. Harpster, Toledo, O.
4 Diagnosis of Vesical Complications in Appendicitis and Other Lesions of Abdominal Viscera. C. Caillet, Amiens, France.

Archives of Internal Medicine, Chicago

July 15, XII, No. 1, pp. 1-116

5 *Pulse Flow in Brachial Artery. A. W. Hewlett and J. G. Van Zwaluwenburg, Ann Arbor, Mich.
6 *Effect of Temporary Occlusion of Renal Circulation on Renal Function. R. Fitz and L. G. Rowntree, Baltimore.
7 *Pathologic Changes in Thyroid in Cretinistic Variety of Chondrodystrophia Fetalis. D. Symmers and G. H. Wallace, New York.
8 Experimental Chronic Nephritis Produced by Combination of Chemical (Uranium Nitrate) and Bacteria (B. Coli Communis). J. P. O'Hare, Boston.
9 Acute Renal Lesions Produced by Uranium Nitrate in Dog in Comparison with Rabbit. J. P. O'Hare, Boston.
10 *Paratyphoid Fever: Serologic Study in Relation to Epidemiology. C. J. Hunt, Harrisburg, Pa.
11 Resistance of Reticulated Erythrocytes. O. H. P. Pepper and M. M. Peet, Philadelphia.
12 Simplified Methods for Quantitative Estimation of Chlorids in Urine. S. Bayne-Jones, Baltimore.
13 Excretion of Indolacetic Acid in Urine. E. L. Ross, Kankakee, Ill.

5. **Pulse Flow in Brachial Artery.**—The authors found that the brachial pulse flow in typical cases of the collapsing pulse of aortic insufficiency is characterized by (1) the large size of the primary wave, (2) by the common occurrence of a rapid black-flow during diastole and (3) by a marked reflection of the primary pulse wave. The large primary wave depends in part on the unusual amount of blood expelled by the left ventricle during systole and in part on the relaxed condition of the arterial tree. The back-flow during diastole is due mainly to the regurgitation into the left ventricle. The back-flow during the latter portion of systole is due to an unusually marked reflection of the large primary pulse wave, produced by an elastic recoil of the peripheral arteries.

6. **Effect of Temporary Occlusion of Renal Circulation on Renal Function.**—According to Fitz and Rowntree in rabbits and dogs with one kidney removed, the circulation of the other kidney may be clamped for as long a time as forty minutes with recovery. If the renal circulation is clamped for a longer time, the animals die with signs of renal insufficiency. In animals with the circulation clamped for not longer than forty minutes, temporary disturbance in renal function is produced as shown by the presence of albumin and casts in the urine, by a diminished phthalein output and by a delayed lactose and iodid excretion. Normal function is regained within six days. Acute or healed pathologic changes are found in kidneys so treated. The acute changes consist of edema, hemorrhage, necrosis and cellular infiltration. The healed changes consist in foci of connective tissue. No progressive lesion is found. Except in the most extreme cases, there is no definite relation demonstrable by the functional tests used between the pathologic and functional disturbances produced. In rabbits with one normal kidney, the circulation of the other kidney may be clamped for at least an hour without permanent injury to the animal's general condition or renal function.

7. **Pathologic Changes in Thyroid.**—There is a form of chondrodystrophia fetalis in which, in addition to changes in the osseous system, Symmers and Wallace feel justified in emphasizing the occurrence of modifications in the soft tissues which are attributable to pathologic defects in the thyroid. The modifications in question consist of thickening of the lips, cheeks and eyelids, the wings of the nostrils and the lobes of the ears, macroglossia, hypertrophic vulva and myxomatous transformation of the subcutaneous and certain deep connective tissues, all of which, when combined with the large head and frog-like expression, the protuberant abdomen, prominent skin folds and pudgy extremities, fulfill the essential requirements for the diagnosis of cretinism. In the latter connection it is to be observed that the chondrodystrophic individual very often bears the so-called "cretinoid physiognomy" without presenting any evidence of cretinism. In these circumstances the large head, depressed nose and dwarfed body, while constituting a superficial resemblance to cretinism are, in reality, the outward expression of a disease which is referable to the bony system and which arises independently of demonstrable changes in the thyroid. To what extent, if any, functional disturbances in the developing thyroid are responsible for the skeletal deformities is an open question. When chondrodystrophia fetalis and cretinism coexist the picture becomes still further involved, and it may not always be apparent to what extent the physiognomy is determined by cretinism and how much of it is due to the chondrodystrophic process acting through premature synostosis of the os tribasilare. In the cretinistic variety of chondrodystrophia fetalis described, the pathologic changes in the thyroid are characterized by an extensive chronic productive inflammatory process eventuating in replacement of the colloid vesicles by means of over-growth of alveolar epithelium, or by invasion and substitution of the alveoli by connective tissue elements derived from the interstitium, aided in both instances by compression exerted from the outside by the contracting fibrous trabeculae.

10. **Paratyphoid Fever.**—During the course of four water-borne epidemics of typhoid studied by Hunt, including 509 cases, 117, or 22.9 per cent., presented atypical features, either during the onset or clinical course. From the feces of eleven patients, in addition to the common inhabitants of the gastro-intestinal tract, there were recovered *B. suicidus*, *B. enteritidis* (Gaertner), three times; *B. acidi lactici*, twice; *B. paradoxus* (Kruse), twice; *B. pseudotyphosus* (Kruse), once; *B. typhosus*, twice; *B. paratyphosus A*, once; *B. paratyphosus B*, once, and *B. cloacae*, once. From the water (in one epidemic) were recovered *B. alcaligenes*, *B. suicidus lectici*, *B. coli communior* and a dysentery organism identified as one described by Rosen in an epidemic of bacillary dysentery at Rotterdam. These studies, Hunt says, indicate that these were unusual and widely varied types, but that each type was specific. The serums, collected at varying periods of from seven to thirty-seven days, studied in dilutions of 1-50 with known organisms for at least one hour, with as many as three studies in several cases, reacted only with the types recorded; hence the specificity of the infecting bacilli as determined by these tests is probably accurate.

Boston Medical and Surgical Journal

July 24, CLXIX, No. 4, pp. 109-143

14 Contributions from Psychopathic Hospital, Boston, Massachusetts. E. E. Southard, Boston.
15 Wassermann Reaction in Its Application to Medicine. W. P. Lucas, Boston.
16 Obstetric Problem of Poor. A. K. Paine, Boston.
17 *End Results of Excision of Knee for Tuberculosis with and without Use of Bone Plates. R. B. Osgood, Boston.

17. **Excision of Knee for Tuberculosis.**—In order to compare the end results of the excision of the knee for tuberculosis in which metal plates or clamps were used to hold the bone ends in close apposition, with the cases of simple excision, Osgood traced the twenty-eight excisions for tuberculosis of the knee-joint done in the orthopedic service of the Massachusetts General Hospital during the last five years. In twelve of these no metals were used to hold the bones in apposition. That is, a simple excision was done, chromic catgut or kangaroo tendon occasionally being used to hold the bones together. In two cases silver wire suture was employed. In fourteen cases aluminum wire clamps or bone plates were used, in eight the aluminum wire clamps devised by Goddu, and in six the malleable iron bone plates suggested by Brackett.

Of the fourteen simple excisions, including the two wired cases, four had a second operation for reexcision, and two of these and one other was subsequently amputated to save life. Three three amputations were in cases either secondarily infected when they entered the hospital, or which became so after leaving the hospital on account of discharging sinuses. Four had sinuses before the operation, and nine after. Pain persisted several months after the operation in five cases. Eventual union occurred in six. The time of union was two months or less in two. The time of union was in three months or more in eleven, and there was no record of eventual union in five. In both the cases in which wire was used it had to be subsequently removed. Of the cases in which bone clamps or plates were used (in eight the clamps, in six the plates), none came to operation for reexcision. There was one amputation done outside the hospital in a case in which a sinus had become secondarily infected after an oil injection, and the wound from an excision done on his second entry apparently later broke down so badly after he left the hospital that a local physician amputated, whether with good cause or not we do not know. Two had sinuses before the operation; five had sinuses after the operation, one from a silk stitch; all are now healed but one. Pain persisted several months after the operation only in the amputated case and as a slight occasional throbbing in a case done four months ago. Eventual union occurred in thirteen. The time of apparent firm union was one month or less in six, two months or less in four, and three months or more in three. In five cases, counting the amputation case as one, the bone clamps or plates gave subsequent trouble, and were removed in four cases, in two of which previous sinuses had existed. Of those whose end result is reported to the present date, nine are said to have had an absolutely perfect result in a comparatively short time, and in all of these bone plates or clamps were used.

The comparative statistics of this series of cases would seem to show that the holding of the nicely approximated bone ends firmly together has definite advantages. The post-operative pain is less, early union is favored, and the only untoward effect noted is the occasional necessity for the removal of the bone clamp or plate. This possible eventuality, Osgood says, seems of little import when compared to the greater assurance of diminished suffering and quicker return of safe and painless weight-bearing.

Georgia Medical Association Journal, Augusta

July, III, No. 3, pp. 73-108

18 Case of "Optic Atrophy, Caused by Uterine Hemorrhage." F. P. Calhoun, Atlanta.
19 Treatment of Trachoma from Surgical Standpoint. J. R. DeCaradeuc, Savannah.
20 Care of Eyes of Children while Employed Indoors. H. M. Lokey, Atlanta.
21 What General Practitioner Should Know about Ophthalmology. C. Stockard, Atlanta.
22 Further Experience with Method for Prevention of Perforation in Submucous Resection. R. M. Nelson, Atlanta.
23 Tonsil and Adenoid Operations. W. C. Kellogg, Augusta.
24 Offending Tonsil. W. C. Lyle, Augusta.

Iowa State Medical Journal, Clinton

July, III, No. 1, pp. 1-72

25 Membranous Pericolitis and Allied Conditions of Ileocecal Region. J. N. Jackson, Kansas City, Mo.
26 Intussusception with Atypical Symptomatology. A. L. Wright and O. C. Morrison, Carroll.
27 Park Hospital. C. F. Starr, Mason City.

Journal of Biological Chemistry, Baltimore

July, XV, No. 1, pp. 1-195

28 *Metabolism after Meat Feeding of Dogs in which Pancreatic External Secretion was Absent. F. G. Benedict and J. H. Pratt, Boston.

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29 Influence of Age and Diet on Relative Proportions of Serum Proteins in Rabbits. C. E. Wells, San Francisco.
30 *Toxic Bases in Urine of Parathyroidectomized Dogs. W. F. Koch, Ann Arbor, Mich.
31 Action of Tissues on Hexoses. P. A. Levene ad G. M. Meyer, New York.
32 Chondroitin Sulphuric Acid. P. A. Levene and F. B. La Forge, New York.
33 *Self-Digestion of Thymus. E. K. Marshall, Baltimore.
34 Preparation of Tyrosin. E. K. Marshall, Baltimore.
35 Effect of Changes in Circulation of Liver on Nitrogen Metabolism. S. A. Matthews and E. M. Miller, Chicago.
36 *Fat Absorption. W. R. Bloor, St. Louis.
37 Researches on Purin. C. O. Johns and E. J. Baumann, New Haven, Conn.
38 Interconversion of Amino-Acids. Hydroxy-Acids and Ketonic Aldehydes. H. D. Dakin and H. W. Dudley, New York.
39 Chemistry of Gluconeogenesis: Pyruvic Acid in Intermediary Metabolism of Alanin. A. I. Ringer, Philadelphia.
40 Sphingomyelin. P. A. Levene, New York.
41 Chondroitin Sulphuric Acid. P. A. Levene and F. B. La Forge, New York.
42 Cottonseed-Meal Toxicity. W. A. Withers and J. F. Brewster, Raleigh, N. C.
43 Necessity of Certain Lipins in Diet during Growth. E. V. McCollum and M. Davis, Madison, Wis.
44 Biochemical Relation between Pyruvic Acid and Glucose. H. D. Dakin and N. W. Janney, New York.
45 *Relation of Diets and Castration to Transmissible Tumors of Rats and Mice. J. E. Sweet, E. P. Corson-White and G. J. Saxon, Philadelphia.
46 Cerebronic Acid. P. A. Levene and C. J. West, New York.

28. **Metabolism after Meat Feeding.**—The results of the author's experiments show that there is no large energy transformation incidental to segmentation, peristalsis, glandular activity of stomach, liver and intestine and the movement of the unabsorbed food through the intestinal tract. The attempt to explain the increased metabolism following the ingestion of food by the theory that the increase is a consequence of such movements is, therefore, not justifiable.

30. **Toxic Bases in Urine after Parathyroidectomy.**—Koch's experiments show that digested proteins taken into the body have very toxic effects after parathyroidectomy. These toxic effects are due to products of intestinal and perhaps also products of parenteral digestion. Such products of digestion are normally placed in some cell molecule or stored up in some form. In the case of these animals they are free and act as toxins. In other animals where no feeding occurred the symptoms increased in violence with short intermissions until death. The violence of the symptoms doubtless followed the rate of disintegration of the body protein. This disintegration had perhaps two sources, the preparation of units to supply cells for regeneration (these could no more be used than those received from the food) and the disintegration of the body protein. This disintegration had perhaps two sources, the preparation of units to supply cells for regeneration (these could no more be used than those received from the food) and the disintegration of the famished cells. The pathologic condition would thus appear to be a failure on the part of the cells to build up their protein This part of the metabolism of the cell is regarded as a function of the nucleus. These indications together with the formation of free nuclein elements point to a nuclein atrophy. The histologic findings moreover show an active nuclein degeneration. The extensive coagulation of the blood coming from organs rich in cells and nuclei, indicates the presence of free nucleic acid in the circulation, since nucleic acid coagulates blood plasma in acid solution. The acidity of the blood is indeed indicated by the absence of iron in the erythrocytes of the blood of this region as well as by the presence of a small proportion of erythrocytes that stain intensely in eosin. The parathyroid secretion, therefore, appears to be concerned with anabolic processes closely related with the building of nucleins. When facilities permit, these investigations will be continued.

33. **Self-Digestion of Thymus.**—Marshall concludes that in the self-digestion of the thymus gland, the ferments of the gland are not capable of decomposing all of the nucleic acid within any reasonable length of time, and, moreover, the undecomposed portion of the nucleic acid appears to be identical with that prepared from the fresh gland.

36. **Absorption of Fat-Like Substances.**—The absorption of two classes of fat-like substances, petroleum hydrocarbons and unsaponifiable esters (wool-fat), was investigated by Bloor. None of them was found to be absorbed. The substances as fed were similar to ordinary fats in most of their properties. They emulsified well with dilute alkalies, were soluble in fats and fat solvents and melted below body temperature. They differed from the fats mainly in that they could not be reduced to water-soluble form in the intestine. The slow passage of the fats from the stomach, the abundant provision for hydrolysis and for the absorption of the products of hydrolysis in the intestine and the failure of absorption of fat-like substances which cannot be changed to a water-soluble form, make it extremely probable that fats can be absorbed only in water-soluble form and that saponification is a necessary preliminary to absorption. The significance of this mechanism is little understood but in the light of the above results, one of its uses would appear to be to exclude undesirable fat-like substances which would otherwise be carried in with the fats.

45. **Relation of Nutrition to Transmissible Tumors.**—The authors found that the susceptibility of rats and mice to the transplantable tumors may be influenced both positively and negatively by proper diets. The rate of growth of the transplanted tumors can be positively or negatively influenced by proper diets. Castration of the male renders the animal more receptive to the transplanted tumor and the rate of growth of the tumor is increased.

Kentucky Medical Journal, Bowling Green

July 15, XI, No. 14, pp. 529-632

47 Management of Miscarriage. I. A. Arnold, Louisville.
48 Tetanus. M. Casper, Louisville.
49 Pathogeny of Spastic Rigidity of Childhood. L. Archambault, New York, and L. K. Baldauf, Louisville.

Journal of Nervous and Mental Disease, Lancaster, Pa.

July, XL, No. 7, pp. 425-488

50 *Psychic Action of Mescalin, with Special Reference to Mechanism of Visual Hallucinations. A. Knauer and W. J. M. A. Maloney, New York.
51 Rebounding Pupil. F. R. Fry, St. Louis.
52 *Blood-Vessel Changes Consequent on Nervous Lesions. T. W. Todd, Cleveland.

50. **Psychic Action of Mescalin.**—The authors' experiences seem to indicate that five levels may be distinguished in passing from purely objective imagery to purely objective realization: First level, the most subjective. The visual image, the visual idea. Second level, the mescalin hallucination, more fantastic, more objective, but still definitely without suggestion of material existence, although largely independent of the personality. Third level, the central after-image. A mechanical copy of an objective impression, emerging out of darkness, without spontaneity. This level seems to be just above that of the mescalin hallucinations. Indeed, the hallucinations very frequently began with a display of central after-images of the wires of an electrical apparatus which they had just used, and only gradually acquired an independent character, a character without relation to the personality as regards content. Fourth level, the peripheral after-image. Totally objective but still not real. Fifth level, the true objective reality. Some idea of the relation of these levels to one another is suggested in the following diagram.

Critique
1. Visual idea.
2. Mescalin hallucination.
3. Central after-image.
4. Peripheral after-image.
5. True objective reality.

There exist at present two schools of thought with regard to the hallucinations of the insane. One says that hallucinations are essentially hallucinations, whether they be of very weak, or of very strong imaginative force; the other, that a hallucination is merely a much exaggerated visual idea. Knauer and Maloney give their personal experiences in the matter of these poisonings. All hallucinations, no matter

how weak or how strong their imaginative force, no matter how feeble their development, remained indubitable hallucinations, and never sank to be merely ideas, the outcome of a vivid imagination. Whether an idea may become intensified till it merge into an hallucination or not, is only a part of the problem, for hallucinations can involve at least any one of several of the levels which by the action of mescalin the authors have been able to distinguish.

Definite delusions appeared in several of the investigated persons; had for these persons all the elements of reality; were identical with mescalin hallucinations; and owed their reality mainly to the affection of the critique. One of them imagined he saw crawling on the wall an insect, of whose material existence he was so convinced that he proceeded to slay it; he then discovered that the object was nothing more than a stationary nail. Another hearing the pencil scratching on the paper on which one of the authors was recording his hallucinations, thought it was a dog howling, and insisted on the creature being quieted. Thus the critique sometimes disappeared; but in each of these examples, there was some external stimulus—in the one case the nail, and in the other the scratching of the pencil on the paper—which was wrongly interpreted. Whether or not the existence of this external stimulus was a determining factor in the temporary obscuring of the critique the authors are not prepared to say. It is noteworthy that the visual hallucination materialized in a darkened room—that is, under circumstances in which their critique of visual impressions normally is somewhat uncertain.

As regards the auditory delusion, they remark that, as only one sound can be heard at a time, whereas visual hallucinations can be perceived together with ordinary external objects, the auditory critique is so much the more liable to disturbance than the visual. In one instance, however, the hallucinations of muscular sense and of vision were replaced by definite combined delusions. In this person the feeling arose that the body was cut in halves transversely at the waist. Presently he saw the lower half of his body before him, and somewhat to the right side. He became very excited about it, and found that when he moved, the separated part of the body moved with him. He danced vigorously in an effort to restore his former integrity. In this person also other visual delusions occurred. Thus, he saw a French soldier and had to be forcedly restrained from attacking his delusion. It is noteworthy that Knauer and Maloney found no indication of the fundamental importance of sexual experience in the content of their artificial hallucinations and delusions, even when special means were taken to elicit it. In addition to these actions, mescalin produced a most remarkable effect on the appreciation of time. Persons under the influence of mescalin enormously overestimated time periods. Seconds seemed minutes; minutes seemed hours. One of the investigated persons, who had been left half an hour in the dark, thought he had lived through the whole night in this time. They investigated this phenomenon experimentally, and found that the overestimation although largely subjective was still demonstrable objectively. The results of these investigations, together with the details of measurement of the power of perception, the power or reckoning, the power to distinguish, the memory, the simple motor reactions, the weight sense, fixed and free word associations, and the visual acuity for colors, will later be published.

52. **Blood-Vessel Changes and Nervous Lesions.**—That the changes in the wall and lumen of blood-vessels which are occasioned by the occurrence of endarteritis obliterans may be dependent for their production on lesion of the nerve supply of the blood-vessel is maintained by Todd. Such changes in the blood-vessels, he says, are not consequent on, but on the other hand are the exciting cause of, trophic lesions of the skin and deeper tissues. These changes occur in some cases of so-called cervical rib and occasion the vasomotor phenomena included in the symptom-complex of that disease. Interference with the trophic nervous supply of blood-vessels has an important bearing on many questions, such as arteriosclerosis and blood-vessel surgery, and may account for some of the phenomena discussed under these headings.

Maine Medical Association Journal, Portland

July, III, No. 12, pp. 1393-1428

53 Chronic Intestinal Stasis. W. S. Bainbridge, New York.
54 Primary Lues and Dark Field. B. B. Foster, Portland.
55 Relation of Church to Medical Social Service. A. A. Downs, Parifield.

Medical Record, New York

July 26, LXXXIV, No. 4, pp. 139-184

56 Is Appendicitis Ever Catarrhal? F. A. Palmer, Morris, Ill.
57 *Bacteriologic Study of Case of Hemorrhagic Myelomalacia. G. A. Rueck, New York.
58 Relation of Bacterial Metabolism to Certain Foods. A. I. Kendall, Chicago.
59 *Beneficial Effect of Duodenal Alimentation in Cirrhosis of Liver. M. Einhorn, New York.
60 *Diagnosis and Prognosis of Duodenal Ulcer. J. T. Pilcher, Brooklyn.
61 Treatment of Persistent Otorrhea in Infants and Young Children by Establishment of Postauricular Drainage. W. C. Phillips, New York.
62 Case of Exploded Urethrascopic Lamp: Removal of Fragments without Operation or Subsequent Symptoms or Sequels. V. C. Pedersen, New York.
63 Treatment of Progressive Cases of Pulmonary Tuberculosis. M. E. Lapham, Highlands, N. C.

57. **Hemorrhagic Myelomalacia.**—The organism isolated by Rueck from the cord of a man who died of hemorrhagic myelomalacia is a micrococcus of a morphology similar to that of the *Micrococcus intracellularis* of Weichselbaum, save that under certain conditions it produces bacillary forms. It stains with ordinary dyes and is Gram-negative. It has no demonstrable capsule and form no spores. It grows luxuriantly on all ordinary media whereas the growth of meningococcus of Weichselbaum is often scanty. On glucose-agar its growth is more slimy and vivid than that of *Micrococcus intracellularis* of Weichselbaum. Like the meningococcus it produces no gas, no indol, is aerobic and does not liquefy gelatin. It ferments and coagulates dextrose and galactose blood-serum-litmus-water. The meningococcus of Weichselbaum ferments dextrose and maltose and sometimes levulose without coagulation. It grows at room temperature and has been kept alive in the ice box for one and a half years. The "strain Fraymann" of meningococcus of Weichselbaum grows also at room temperature but lives in the ice box only nine days. In the dry state it was kept alive for eleven days, while the meningococcus lived only five days. Its thermal death point is 64 C. in ten minutes and 60 C. in seventy-five minutes. Flexner states that the meningococcus of Weichselbaum is killed at 60 C. in thirty minutes. It is not agglutinated by a monovalent nor polyvalent antimeningococcus serum, nor by the serum of *Micrococcus catarrhalis* and of *Micrococcus mucosus capsulatus*. It thrives exceedingly well on the cerebrospinal fluid and in the substance of brain and cord, giving rise to an exudative inflammation of the meninges and an acute and very rapid degeneration, and necrosis of the nerve cells and their processes in man and laboratory animals. *Micrococcus intracellularis* of Weichselbaum produces degenerative changes in cord and brain of man and laboratory animals and a fibrinopurulent meningitis in man and monkeys but not in rabbits.

59. **Duodenal Alimentation in Cirrhosis of Liver.**—During duodenal alimentation in six patients the liver became markedly smaller (already after two or three days), assuming a size almost normal. In four patients the result was lasting. In one, however, a few days after the termination of the feeding the liver began to grow larger, while in another patient with pure cirrhosis and dilated heart the size of the liver quickly assumed its original large proportions. The influence of duodenal feeding was in this case very marked but not lasting. Einhorn's experience up to the present time, he believes, justifies him in the conclusion that duodenal alimentation contributes greatly toward diminution of the functional work of the liver. This rest treatment of the latter organ is of benefit whenever it is considerably impaired. The cirrhoses of the liver and allied conditions, accompanied principally by swelling of the hepatic tissues, form a field in which duodenal alimentation may be applied apparently to great advantage.

60. Abstracted in THE JOURNAL, May 17, p. 1573.

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New York Medical Journal

July 26, XCVIII, No. 4, pp. 157-208

64 Quantitative Amino (NH) Nitrogen Content of Syphilitic and Non-Syphilitic Serums. D. M. Kaplan, New York.
65 Prevention of Death and Resuscitation. A. L. Soresi, New York.
66 Chronic Appendicitis in its Relation to Hyperacidity of Gastric Juice. H. Illoway, New York.
67 Obesity and Emaciation. D. Bovaird, New York.
68 Value of Cauterization by High Frequency Current in Certain Cases of Prostatic Obstruction. A. R. Stevens, New York.
69 Relation of Ellis Island to Public Health. A. C. Reed, New York.
70 Mental Measurement of 400 Juvenile Delinquents by Binet-Simon System. W. G. Eynon, New York.
71 High Pressure Disease. S. R. Roberts, Atlanta, Ga.
72 Antral Empyema, with Presentation of Efficient Conservative Operation for its Cure. H. C. Masland, Philadelphia.
73 Food for Babies. M. A. Asserson, New York.
74 Wounds of Pericardium and Heart. G. G. Holladay, Portsmouth, Va.
75 Acute Mercury Poisoning. J. M. Lobsenz, New York.

New York State Journal of Medicine, New York

July, XIII, No. 7, pp. 355-466

76 Present Status of Cesarean Section. E. P. Davis, Philadelphia.
77 Problem of Caring for Defectives. W. T. Shanahan, Sonyea.
78 Examination of Insane. T. I. Townsend, Binghamton.
79 Prevention of Insanity. C. Waterman, Willard.
80 Massage in Acute and Subacute Stage of Gonorrheal Rheumatism. H. F. Wolf, New York.
81 Some Points of Contact between Ophthalmology and General Medicine. F. W. Marlow, Syracuse.
82 Macular Inflammation. J. J. O'Brien, Schenectady.
83 Nervousness and Dowd Phosphatic Index. R. J. Talbot, Niagara Falls.
84 Blood-Pressure. A. B. Santry, Little Falls.
85 *Clinical Reports of Ten Cases of Pulmonary Tuberculosis in Children Treated with Mixed Bacterins. L. C. Ager, Brooklyn.
86 Physician and Laboratory. W. B. Stone, Schenectady.
87 Antitoxin in Diphtheria. J. R. Culkin, Rochester.
88 Relation of Infected Stream to Milk Supply of City. F. M. Meader, Syracuse.

85. Pulmonary Tuberculosis in Children.—Although many experimenters have claimed to accomplish good results from the use of bacterins in cases of general infection in which there is a true bacteriemia present, Ager believes that such treatment seems to have no logical foundation. The reason advanced for introducing into the circulation the toxins of a disease from which a patient is already suffering is that the reaction to the toxin is largely local and that the active, acquired immunity is also largely local. If, therefore, a general systemic reaction can be produced one shall expect to secure a systemic immunity. In spite of the recent reports of Pettitt and Brown, Ager has been convinced by the investigations of Avery that the secondary organisms are practically never found in the blood of phthisical patients, even in the terminal stages. If that is true, pulmonary tuberculosis is almost entirely a local process and the mixed vaccines ought to be of benefit.

With these facts in view, he treated ten patients in the Brooklyn Home for Consumptives. The ten patients were selected for the following reasons: They had all been in the home long enough to show the extraordinary improvement which removal to proper conditions always produces in children, no matter how advanced the case. They all showed active lesions. They represented different types and different stages of the disease. The bacterial vaccine used was a mixed bacterin, made up as follows: *B. influenzae, B. Friedlander, M. catarrhalis* and pneumococcus 12,500,000 each; diphtheroids 25,000,000 each; streptococcus 12,500,000 each; *Staphylococcus albus* 50,000,000 each; *Staphylococcus aureus* 50,000,000. This product was selected because it contained the organisms that Ager had occasionally found in washed specimens of sputum from the home. The first dose in each case was two-fifths of the amount tabulated above. The second dose was three-fifths. The third dose was twice the amount, the fourth was four times, and the fifth and last dose was eight times. The intervals between doses were four days each. This dosage might well be criticized for its rapid increase if any reactions had been observed.

No definite reactions were observed in any case. Two children complained of slight muscular pains after the first injection. A careful study of the four hour rectal temperature charts showed no special changes in any case. In four patients there were slight changes that might be attributed to the treatment. The only positive conclusion drawn by Ager from these cases is that this particular bacterin bears no special relation to these particular cases. It is quite possible that autogenous vaccines might have shown a definite reaction.

Ohio State Medical Journal, Columbus

July, IX, No. 7, pp. 315-366

89 Alcohol Injections into Superior Laryngeal Nerve in Tuberculous Laryngitis. W. Mithoefer, Cincinnati.
90 Complications and Sequelae of Abdominal Surgery. F. F. Lawrence, Columbus.
91 Nourishment of Infants. C. S. Ordway, Toledo.
92 Case of Septic Thrombosis of Both Ophthalmic Veins and Cavernous Sinuses. J. R. Mossgrove, Steubenville.
93 Treatment of Syphilis. H. A. Baldwin, Columbus.
94 Relation of Proctology to Urology. G. B. Evans, Dayton.

Texas State Journal of Medicine, Fort Worth

July, IX, No. 3, pp. 89-122

95 *Peripheral Neuritis in Amazon Valley. C. Lovelace, Waco.
96 Unwritten Chapter in Gynecology, Uterine and Adnexal Syphilis. I. C. Chase, Fort Worth.
97 *Heredity as Factor Promoting Resistance to Tuberculosis. B. Cornick, San Angelo.
98 Colon Disharmony. R. S. Loxing, Dallas.
99 Part Doctors Have Taken in Construction of Panama Canal. W. C. Gorgas, Panama Canal Zone.
100 Berlin's Attitude toward Friedman and His Serum. E. L. Gilcreest, Gainesville.

95. Peripheral Neuritis in Amazon Valley.—Recently Lovelace analyzed 963 cases of peripheral neuritis treated in a railway hospital in North Brazil. His conclusions were, (1) that a peripheral neuritis attended by high mortality prevailed in North Brazil, (2) that this neuritis was a clinical entity which must be classified as beriberi or as a member of an as yet hypothetic beriberi group, (3) that this disease bore no intimate relation to the consumption of rice as a staple article of diet, (4) that it was not due to the absence of any food principle in the diet of those whom it attacked. That this disease was not intimately associated with a rice diet and that it was not due to the absence of any of the recognized food elements, were conclusions unavoidable in the face of facts pertaining to the incidence of the affection. That is to say, it attacked persons who had previously eaten no rice whatever, a larger number of persons who had eaten it only occasionally and a great number of persons in whose diet rice could not be considered the staple factor. It was not confined to the laborers, but prevailed among the employees of the higher grade whose diet was varied and abundant. In addition, there was both a place and a seasonal variation in its occurrence.

There were two types of the disease: First, the cardiovascular type—in which circulatory symptoms predominated, and, second, the paralytic type—in which paralysis of various muscle groups, with areas of perverted sensation, was the characteristic feature. Very naturally the majority of cases presented both sets of symptoms: there was tachycardia, perhaps arhythmia and reduplication of the second sound over the pulmonic area; perhaps some dyspnea; edema particularly over the shins; the deep reflexes were usually exaggerated but frequently lost; areas of anesthesia, hyperesthesia or paresthsia were frequently present; motor paralyses showing a predilection for the extensors of the leg and forearm, although any muscle group was liable to be affected, were present.

There was a group of fulminant cases—*beriberi galopante*, in the vernacular—in which the whole course of the disease from the very first symptoms to the final flutter of the dilated heart, might occupy less than one week; and there was the group of paralyzed wretches, bedridden for months or years, whose best hope lay in the merciful intervention of some kindly intercurrent malady like lobar pneumonia or bacillary dysentery. There was also a very remarkable group characterized by the rapid onset of a more or less complete

paraplegia. The mortality was from 15 per cent. to 20 per cent. and anatomically there was atrophy of the skeletal muscles, dilatation and hypertrophy of the heart and effusions into the serous cavities, particularly the pericardium. Frequently the whole cadaver was waterlogged.

97. **Heredity Promoting Resistance to Tuberculosis.**—Cornick concludes that to account logically for the demonstrated fact, as shown by Struempel and others, that 80 to 90 per cent. of mankind in Western Europe at least, acquire at some early period in life a tuberculous infection which remains localized and becomes quiescent before death occurs from some other disease, we must postulate the existence of a racial immunity, slowly built up after ages of infection and resistance in each successive generation. Racial immunity, or racial resistance, is the sum of the resistance of the individuals and families of the race. With the inadequate sanitary precautions at present almost universally prevailing, every child occupying the living-rooms of a tuberculous parent and breathing their germ-laden atmosphere every day, if not every hour, must necessarily become infected, unless endowed with absolute immunity to tuberculosis—a condition which, according to the present state of our knowledge, does not exist. With the ever present opportunity for acquiring, under these circumtsances, a "massive" infection, the only tenable explanation of the fact that any such child can survive the period of childhood must be on the ground of exceptional resisting power transmitted to it by heredity from a tuberculosis parentage. The only alternative hypothesis is that a slight infection, with a very few tubercle bacilli, repeated from time to time, at just the right theoretical intervals, might produce a protective immunization of the child if not later subjected to a "massive" infection. But this explanation, which has much to commend it, and which is accepted by Professor Metchnikoff, would, if it were the all-sufficient and correct one, hold true also among the North American Indians and negroes, as well as among Caucasians. Clinical observations among these races shows, however, almost no resistance where the chances of infection are equal.

United States Naval Medical Bulletin, Washington, D. C.

July, VII, No. 3, pp. 321-487

101 *Weak Foot. R. C. Holcomb, U. S. Navy.
102 New Theory of Ventilation and its Application in Certain Situations Aboard Ships. F. L. Pleadwell, U. S. Navy.
103 Aural Affections Dependent on Visceral Lesions and Functional Nervous Disorders. J. J. Richardson, U. S. Navy.
104 Detection of Feebleminded Applicant for Enlistment-Value of Binet-Simon Scale as Diagnostic Aid. A. R. Schler, U. S. Navy.
105 Lost Trails, Plea for Naval Medical Biographies. J. D. Gatewood, U. S. Navy.
106 Absorbable Animal Ligatures. T. A. Berryhill, U. S. Navy.
107 Model Camp Hospital Ashore. E. Thompson, U. S. Navy.
108 Advantages of Paris from Medical Postgraduate Point of View. R. A. Bachmann, U. S. Navy.
109 Estimation of Total Nitrogen. E. R. Noyes, U. S. Navy.

101. **Weak Foot.**—Holcomb comments on what in service experience has been of benefit to make a workingman out of a cripple. He says that soaks, strapping, bandaging and rest have all been tried for the relief of the painful symptoms, and their value for temporary relief needs no comment. Metal arches have been unsuccessful in all cases reported. Unless a plaster cast is made of the foot in a position of adduction and a steel arch made to conform to the proper contour, as recommended by Whitman, the measure is more apt to increase the pain than to afford relief. Not one man on whom they were tried appears to have been benefited to the extent that his disability did not finally disable him from service. Operative measures directed toward the bones and ligaments, Holcomb says, do no more than to make a cripple a little less of a cripple, rather than to make him fit for service. Exercise and the teaching of men the proper way to develop their feet seem to afford the most promising results. These exercises should be undertaken in the incipiency of the weakness. The development of the plantar muscles, the tibialis posticus and anticus and the group of muscles that give spring to the foot, the avoidance of keeping the foot in a prolonged attitude of pronation and rest should be insisted on. The prolonged standing with the relaxed muscles throws all the strain on the ligamentous structures, when the burden should be shared by the muscles. Tiptoe exercises with the feet in voluntary adduction are the type of exercises to develop the muscles most concerned in giving strength to the inner arch; raising the full height of the long arm of the inner longitudinal arch and then easing slowly down to the outer arch which exercises the transverse arch of the two feet. The development of a proper leverage walk is of great value, and here we must look to adaptability of the shoe for the foot.

Washington Medical Annals, Washington, D. C.

July, XII, No. 4, pp. 201-253

110 High-Frequency Currents. F. B. Bishop, Washington, D. C.
111 San Martin Y Satrustegui's Operation for Gangrene. G. T. Vaughan, Washington, D. C.
112 Case of Hydrophobia. P. S. Roy and H. J. Nichols, U. S. Army.
113 Tabes with Unusual Distribution of Deep Pain Loss. T. A. Williams, Washington, D. C.
114 Syphilis among School Children. H. H. Hazen, Washington, D. C.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Australasian Medical Gazette, Sydney

May 31, XXXIII, No. 22, pp. 507-536

1 Specimens Illustrating Intracranial Disease. C. T. C. de Crespigny.
2 Reduction of Typhoid in Australasia. J. S. Purdy.

June 7, No. 23, pp. 537-564

3 National Insurance Act. R. H. Marten.
4 Recurring Fibroma of Nasopharynx. W. N. Robertson.
5 Epitheliosis Desquamativa and Trachoma. A. Leber.

June 14, No. 24, pp. 565-586

6 Gastroptosis. F. A. Hadley.
7 Death from Intravenous Injection of Salvarsan (Hemorrhagic Encephalitis). T. G. Fleming.
8 Emotions and Their Relation to Mind. G. H. Taylor.

British Medical Journal, London

July 12, II, No. 2741, pp. 57-108

9 Cancer of Colon. S. White.
10 *Carcinoma of Prostate. R. J. Willan.
11 Surgical Milestones. R. C. Brown.
12 Defects of Insurance Act and Their Remedy. W. Stanger.
13 Acute Endocarditis Following Gonorrhea. A. W. Gill.
14 Spontaneous Reduction of Dislocation of Cervical Vertebrae. W. C. Bentall.
15 Local Anesthesia. H. S. Souttar.
16 Dilatation of Fallopian Tubes for Sterility. T. H. Lewis.

10. **Carcinoma of Prostate.**—The average duration between the onset of symptoms and the patient seeing a surgeon was fourteen and a half months in the thirty-three cases analyzed by Willan. The average age was 61. The onset symptom was increased nocturnal frequency of micturition in 40 per cent., and gradual obstruction to urination in 30 per cent. of the cases. Pain was variable, and not characteristic. Urinary obstruction was a marked feature; 72 per cent. had complete retention, and a further 24 per cent. partial retention. Hematuria was not common; probably 82 per cent. were without bleeding. On rectal examination 70 per cent. showed hard nodules, with fixity of the gland. The average duration of the disease from onset of symptoms to death was twenty-eight months. Young's statistics that 21 per cent. of removed prostates show a malignant tendency cannot be ignored. If these figures are accepted, it is a surgeon's duty to remove the gland by operation immediately it begins to cause symptoms. The risks of the operation then are smaller than the risks should malignancy supervene. Treatment recommended when a diagnosis of carcinoma has been made: (a) in the absence of residual urine, give a urinary antiseptic, with opium for the pain when necessary; (b) if there is residual urine, begin catheter life, using a large-sized hard catheter; give a urinary antiseptic, with opium if necessary; (c) if there is obstruction, or, if catheter life is intolerable, establish a permanent suprapubic drainage.

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Brain, London

May, XXXV, No. 4, pp. 259-330

17 *Endogenous Fibers of Human Spinal Cord (from Examination of Acute Poliomyelitis). F. E. Batten and G. Holmes.
18 *Pathology of Chronic Progressive Chorea. J. A. F. Pfeiffer.
19 *Case of Landry's Paralysis with Special Reference to Anatomic Changes. J. A. F. Pfeiffer.
20 Ductless Glands and Nervous System. T. R. Elliott.

17. **Endogenous Fibers of Human Spinal Cord.**—The spinal portion of the spinal accessory nerve, according to Batten and Holmes, has a large intramedullary root which extends throughout the upper five or six cervical segments of the spinal cord. The longer descending systems of the dorsal columns—Schultze's comma tract, Hoche's marginal bundle, Flechsig's oval field, and Gombault and Philippe's triangle—do not contain endogenous fibers in man. The propriospinal fibers of the ventrolateral columns are arranged in man as in other mammals, and conform in their arrangement to the law that the longer fibers lie nearer the surface of the cord. Many fibers of the long ventrolateral columns ascend to the brain-stem and terminate in the inferior olives, in the formatio reticularis bulbae et pontis, in the nucleus centralis inferior, and probably in the nuclei laterales of the medulla; others ascend in the dorsal longitudinal bundles as high as the midbrain.

18. **Pathology of Chronic Progressive Chorea.**—The pathology of chronic degenerative chorea, Pfeiffer says, consists not only in a degenerative process in the nervous elements of the cortex, but of the thalamus and corpus striatum.

19. **Case of Landry's Paralysis.**—The changes in the peripheral nerves on microscopic examination made by Pfeiffer are most interesting, and emphasize the importance of an examination of the peripheral nerves in all cases of acute spreading paralysis, as it seems most probable that the pathology of this condition *per se* is to be looked for in the peripheral nervous system. In the case studied by Pfeiffer the pathologic findings are those of an interstitial neuritis, affecting the nerve roots and peripheral nerve stems. It is also interesting to notice that in spite of the existence of this interstitial neuritis, no sensory symptoms or pain on pressure occurred. The motor cells were well preserved through the central nervous system, and the cellular changes which were present could hardly be regarded as having any direct relation to the paralysis, as such cellular alterations are frequently found in other conditions not associated with acute spreading paralysis.

Clinical Journal, London

July 2, XLII, No. 13, pp. 193-208

21 Cases Illustrating Certain Urinary Conditions in Women Associated with Frequent or Painful Micturition. D. Newman.
22 Alimentary Intoxication. E. M. Corner.

July 9, No. 14, pp. 209-224

23 Conditions Simulating Prostatic Hypertrophy. C. Wallace.
24 Color-Vision and Color-Blindness and Methods of Testing. C. D. Marshall.
25 Traumatic Pancreatic Pseudocyst. T. G. Moorhead and R. A. Stoney.

Journal of Tropical Medicine and Hygiene, London

July 1, XVI, No. 13, pp. 193-208

26 Ankylostoma Infection in Udi District of Central Province, Southern Nigeria. E. J. Wyler.
27 Ankylostomiasis in North Nyasa District. P. C. Conran.
28 Identity of Infantile and Donovan's Leishmania (Kala-Azar). U. Gabbi.

Lancet, London

July 12, II, No. 4689, pp. 63-124

29 Toxemias of Pregnancy and Eugenics from Obstetric Standpoint. A. Rooth.
30 Esophagoscopy, Laryngoscopy and Bronchoscopy, as Aid in Detection of Disease and Removal of Foreign Bodies Impacted in Food and Air Passages. W. Milligan.
31 *Process of Digestion Illustrated by Action of Stains on Living Tissues. E. E. Goldmann.
32 *Blood and Cerebrospinal Fluid in Mumps. A. Felling.
33 Operation and After-Treatment of Fistula in Ano. P. L. Mummery.
34 Graphic Records of Respiratory Paralysis. G. A. Sutherland.
35 Routine Method of Examination in Gonorrhea in Male as Guide to Treatment. F. H. Pickin.
36 Elimination of Errors in Roentgenoscopy of Urinary Calculus. E. W. H. Shenton.

31. **Digestion Shown by Staining Living Tissues.**—From Goldmann's researches it is evident that the process of digestion coincides with a cellular reaction which takes place in the connective tissue of the mucous membrane, a reaction having for its principal feature an immense concourse of two kinds of cells, phagocytes capable of being stained during life and acidophil cells. In certain circumstances he found a precisely similar reaction in the animal body under the most varied conditions. If, for example, a rat is purposely infected with trichinosis, masses of pyrrol cells and acidophil cells are found in the tissues surrounding the trichinous deposit and even in the trichinous capsules. In a prepared specimen of carcinosis of the peritoneum of the mouse the carcinomatous nodules lying in the mesentery are dark blue, whereas the intestine is almost quite free from these cells. The carcinoma has therefore diverted the pyrrol cells from the intestine and drawn them to itself. This cellular reaction is very similar to and perhaps identical with the one which Schlecht, Schittenhelm and their co-workers have recently brought about by the parenteral administration to an animal of albumin derived from a different source and by anaphylaxis both in the blood and also locally. All these various conditions have a basis in common, namely, that the organism resists the entrance not only of foreign bodies, but also of blood or cells from foreign sources, and when they have entered it may endeavor to convert them, respectively, into a part of its own fabric or into its own blood and cells.

32. **Blood and Cerebrospinal Fluid in Mumps.**—From the results of his observations Feiling thinks the following conclusions are justified: (1) That the blood in mumps shows definite changes in the corpuscular content; (2) that these changes consist (a) in a slight increase in the total number of leukocytes, and (b) in a lymphocytosis which is both relative and absolute; (3) that this lymphocytosis is present on the first day of the disease and persists for at least fourteen days; (4) that the occurrence of orchitis does not invariably alter the blood-picture, and (5) that the changes in the blood are of distinct diagnostic value in differentiating mumps from other inflammatory swellings of the parotid or submaxillary salivary glands and from cases of lymphadenitis. In one case of mumps, a clinical picture strongly suggestive of meningitis is presented, and the clinical diagnosis is supported by the examination of the cerebrospinal fluid. The two together constitute a fairly complete proof of the existence of an inflammatory lesion of the meninges of the brain and spinal cord which undoubtedly followed mumps and for which no other cause could be found.

From this case and from the accounts of the other quoted cases the following conclusions are drawn: (1) That a lymphocytosis of the cerebrospinal fluid occurs in mumps, when that disease is complicated by meningitis or by lesions affecting the cranial nerves; and (2) that a lymphocytosis has been found in cases of mumps which have presented no clear clinical symptoms of any organic lesion of the nervous system. Finally, from a consideration of the changes found in the blood and cerebrospinal fluid, we are, Feiling thinks, justified in assuming that the virus of mumps excites an inflammatory reaction in the body whose characteristic feature is a great aggregation of lymphocytes.

Medical Press and Circular, London

July 2, XCVI, No. 3869, pp. 1-24

37 *Absence of Abdominal Respiratory Movement as Indication of Pericarditis. W. E. Wynter.
38 Intestinal Angulations and Kinks Associated with Stasis. W. I. de C. Wheeler.
39 Guiding Principle in Therapeutics. J. Snowman.
40 Breast Feeding of Infants. E. G. A. Webb.

July 9, No. 3870, pp. 25-52

41 Surgical Treatment of Epilepsy. O. Kukula.
42 Pathology and Treatment of Hallux Valgus. A. S. B. Bankart.
43 Foot-and-Mouth Disease in Man—Aphthous Fever. C. M. O'Brien.
44 Tuberculous Meningitis in Adults. G. A. Crace-Calvert.

37. **Absence of Abdominal Respiratory Movement in Pericarditis.**—Where loss of abdominal respiratory movement was well marked, in the absence of more obvious thoracic and abdominal lesions, Wynter says, in four cases the pericarditis was associated with chorea in children. Two were admitted with this complaint, and evidence of pericarditis either in to-and-fro friction or cantering rhythm with loss of abdominal movement. Another, admitted with rheumatism and mitral regurgitation, developed chorea, and at the same time loss of abdominal movement was noted and pericarditis recognized by well-marked friction at the base of the heart. When readmitted for recurrence of chorea three months later the pericardium was found to be adherent. The fourth case, admitted with chorea, later developed pericarditis and effusion.

Practitioner, London

July, XCI, No. 1, pp. 1-156

45 *Phlebitis. D. Duckworth.
46 Cancer of Breast. J. H. Evans.
47 *Cystic Mammary Tumors. H. Upcott.
48 *Inoperable Cancer and Radium. A. A. Warden.
49 Arterial Spasm. O. K. Williamson.
50 Difficulties of Diagnosis in Disease in Children. J. Porter-Parkinson.
51 *Cyclic Vomiting in Children. H. T. Ashby.
52 *Treatment of Infantile Diarrhea by Saline Injections. H. B. Day.
53 Some Surgical Diseases of Abdomen in Children. J. H. P. B. Barrett.
54 *"Tunnel" and "Caterpillar" Skin Grafting. A. Maclennan.
55 Case of Rat-Bite Disease. R. T. Hewlett and G. H. Rodman.
56 Orthopedic Surgery. A. H. Tubby.
57 *Picric Acid and Camphor Treatment of Ringworm. A. Savill.
58 Results of Vaccine Treatment in Upward of 400 Cases of Acute and Chronic Infective Disease. A. Ross.
59 Combined Psycho-Electrical Treatment of Neurasthenia and Allied Neuroses. E. L. Ash.
60 Colloids in Medicine and Physiology. L. Dimond.
61 Importance to Life of Mineral Substances in Our Foodstuffs. J. Oliver.
62 Atypical Case of Pneumonia. (Afebrile.) L. A. P. Burt.

45. **Phlebitis.**—The treatment of patients with phlebitis, Duckworth says, is both regiminal and medicinal. Posture is of the first importance, and rest of the involved part is essential. If a leg is the seat of the process it must be laid out horizontally, the knee slightly flexed and the foot everted. A pillow under the knee supporting and slightly raising the ankle secures rest. One part of belladonna liniment to four of warm water should be applied on lint well soaked and loosely bandaged over the vein. This is to be covered with oiled silk and lightly bandaged. This is all that is required locally. An aperient of calomel, colocynth and henbane pill should be given overnight, and a dose of any saline powder or water taken the following morning. It will be advisable to repeat this saline dose several mornings in the week. Potassium or sodium citrate and lithium citrate with compound tincture of bark in an ounce of sarsaparilla decoction, taken twice in the day, is a useful medicine. The diet is very important. It must consist chiefly of fish, eggs and light pudding. Well-cooked green vegetables are advisable, fresh tender lettuce and cooked fruit, apples by preference. Strong coffee should be avoided; weak tea or a little whisky may be given if the circulation is feeble. Freshly made lemonade may be taken. Milk is to be avoided and for a good reason. Milk is rich in lime and may certainly tend to promote clotting. Whey is a safe liquid to employ. Extra drinking of water, distilled if possible, is very advisable. Milk is inadvisable in all cases of viscosity of the blood. Care must be taken at first on assuming the erect position; no sudden movements should be made. Bending the knee of one limb in getting into bed has proved fatal in several cases by causing rupture of a clot and embolism of the pulmonary artery. The patient should sit on the bed and have the legs raised by an attendant. The affected limb should be bandaged carefully for some weeks. It may sometimes remain permanently enlarged and more clumsy than the sound one. At a later period, warm douching and gentle massage may be employed. Massage should be avoided till the circulation is reestablished.

47. **Cystic Mammary Tumors.**—Upcott states that the treatment of cystic tumors of the breast involves operation without delay. It is not enough that the mention of a tumor in the breast should raise the thought of malignancy; in every case of a woman over 30 prompt and radical treatment should be instituted unless the possibility of malignancy is excluded.

48. **Inoperable Cancer and Radium.**—Warden is convinced that radium has established a claim to be tried, not only in apparently hopeless cases, but in those in which gland infection and cachexia have not yet reduced the patient's chance to a minimum.

51. **Cyclic Vomiting in Children.**—On the theory that the liver is at fault, and that there is an absence or non-usage of the carbohydrates, Ashby gives sugar in large quantities during an attack, and, if possible, before an attack comes on. The best way to give it, he says, is as glucose in soda water, giving an ounce of glucose every two hours by the mouth, if possible. The children get very thirsty during an attack, and are only too eager for drinks; of course, a good deal is vomited back again, but if a drink of the glucose and soda water is given soon after an attack of vomiting, some of it will be absorbed before the next attack of vomiting comes on. The glucose should also be given per rectum in large quantities. Ashby is quite certain that this materially shortens an attack and makes it less severe. If the parents can tell when an attack is coming on, the glucose should be given at once, and so help to ward it off, or at least to shorten it. The bowels should be kept freely moving with enemas, and if the child during an attack is getting worn out by the continual vomiting and retching, a small injection of morphin often helps to diminish the vomiting and to give some rest.

52. **Infantile Diarrhea.**—Saline injections alone, without drugs, Day holds, are capable of curing most cases of infantile diarrhea. He believes that marine plasma has no definite superiority over artificial saline of the same strength. Such hypertonic solutions are preferable to weaker (75 per cent. or less). The administration of medicine is preferable to injections of saline as a routine treatment of infantile diarrhea. Disregard of dietary instructions is the commonest cause of failure of outpatient treatment. Injections are valuable in proportion as the loss of fluid—by vomiting and diarrhea—exceeds the intake. They should be given before actual symptoms of collapse arise.

54. **Skin-Grafting.**—In 1912 Maclennan described a new method of skin-grafting which he designated "tunnel" grafting, and which, he says, has given him most excellent results. Another new plan for skin-grafting, which he has employed, he has designated "caterpillar" grafting, on account of the skin graft being made to crawl on to the ulcer. It consists in cutting a long strip of skin running up to, but not entering, the ulcer. The top end is pointed and is detached. The flap is then doubled on itself and a single stitch retains it in its new position. The raw surface left behind is closed by a continuous stitch. The flap should be broad, not less than 1 inch, and should not be too long, not more than 5 inches. After the pointed end has acquired a firm hold in its new bed, the other end is cut into the ulcer and the caterpillar is straightened out, the fold then being formed of the granulations and part of the bed of the ulcer. After the graft has acquired a hold, the elevated part of the ulcer, carrying the former blood-supply of the caterpillar graft, is cut away; thus, a long sound strip of the entire skin is planted across or well into the ulcer. The flap should be stitched to the cut edge of the granulation tissue in the ulcer, but the edges should be drawn together by mattress sutures passing below the graft, so as to avoid interference with the blood-supply of the new strip of skin. This method of grafting is not regarded as of such general utility as the tunnel method, but it is suitable in some cases.

57. **Ringworm.**—The lotion used by Savill consisted of picric acid 7 grains, camphor ½ ounce and rectified spirit ½ ounce, as advanced by Williams.

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Annales de Gynécologie et d'Obstétrique, Paris

June, XL, No. 6, pp. 321-384

63 *Destructive Mole. (Etude de la mole disséquante ou pénétrante.) Curtis and Oui.
64 Congenital Cystic Tumors of the Uterus; Two Cases. Vautrin.
65 Ileus and Operative Treatment Not Interfering with Seven-Months Pregnancy. Lévy-Klotz, B. Cunéo and A. Pinard.

63. **Dissecting Mole.**—Those interested in this subject will here find the literature to date well presented with tabulated details of the twenty-two principal cases on record of destructive hydatidiform, dissecting or penetrating mole. Curtis and Oui report further the minute details of the case of a woman of 50 with this form of mole at her fifth pregnancy, with an illustrated description of the minutest histologic details. The syncytial masses around the villi ceased abruptly on the farther side of the fibrinous wall shutting in the elements of the mole. They were unable to find a trace of syncytium even in the veins around, and this they regard as the main difference between mole and malignant chorio-epithelioma.

Annales de l'Institut Pasteur, Paris

May, XXVII, No. 5, pp. 341-420

66 Research on Coagulation of the Blood. (Sur la nature du cytozyme.) J. Bordet and L. Delange.
67 Ricin Intoxication in the Guinea-Pig. Nicolle and E. Cesari.
68 Hydrolysis of Saccharose with Different Acids in Presence of Kojl's Sucrase. G. Bertrand and Rosenblatt.
69 Ninth and Tenth Annual Antimalaria Campaigns in Algiers, 1910-1911. E. and E. Sergent.
70 Research on Development of Aspergillus Niger. A. Kiesel.

Archives des Maladies du Cœur, Etc., Paris

July, VI, No. 7, pp. 433-496

71 Congenital Heart Disease. (Considérations cliniques et physiologiques à propos de 5 cas de maladie congénitale du cœur droit étudiés graphiquement.) C. Laubry and C. Pezzi.
72 Pathologic Anatomy of Ankylostomiasis and Hemolytic Jaundice. J. Parisot and C. Fairise.

Archives Mens. d'Obstétrique et de Gynécologie, Paris

June, II, No. 6, pp. 529-608

73 Postoperative Menstrual Blood-Cyst. G. de Rouville and Arrivat.
74 Treatment of Puerperal Eclampsia with Morphin. J. Rouvier.
75 Abdomen Presentation. (Présentation du tronc—mode du ventre.) J. Henrotay.

Bulletin de l'Académie de Médecine, Paris

June 24, LXXVII, No. 24, pp. 597-614

76 Theoretical Explanation of the Findings with the Filament Galvanometer in Heart Disease. A. Lesage and E. Mosny.

Bulletins de la Société de Pédiatrie, Paris

July, No. 7, Supplementary No., pp. 281-336

77 *Infant Wards in Hospitals. (Améliorations à apporter au fonctionnement des crèches d'hôpital.) H. Triboulet.

77. **Infants' Wards in Hospitals.**—This number of the *Bulletins* is a fifty-five-page pamphlet containing the suggestions for improving conditions in the infants' wards of hospitals as presented and discussed at recent meetings of the Société de Pédiatrie of Paris. They are printed in this form for general distribution. A copy of the pamphlet is to be sent to all authorities in charge of the French hospitals and others interested. (The secretary of the society is M. Apert, 14 rue de Marignan, Paris.) Some of the suggestions were summarized in THE JOURNAL, May 10, 1913, p. 1498.

Journal de Médecine de Bordeaux

June 29, XLIII, No. 26, pp. 413-428

78 Restriction to Water Diet in Treatment of Adults. (La diète hydrique chez l'adulte.) A. Guerin.

July 6, No. 27, pp. 429-444

79 The Diminishing Birth-Rate. (La crise de la dépopulation. Théories néo-malthusiennes et avortement.) P. Balard.
80 Traumatic Meningocele in Infants; 3 Cases. H. L. Rocher.

Presse Médicale, Paris

June 28, XXI, No. 53, pp. 525-536

81 *Study of Achondroplasia. (Interprétation des variétés morphologiques basée sur l'ontogenèse.) Bertolotti.
82 *Roentgenoscopy of the Liver. (Hépatoptose et rayons x.) M. Letulle.
83 Congenital Permanent Cyanosis; 3 Cases. G. Heuyer.

July 2, No. 54, pp. 537-552

84 The Leukocyte Reactions. C. Richet.
85 Pseudarthrosis of the Fibula. A. Broca.
86 Conservation of Plant Elements. (La stabilisation des végétaux. Ses conséquences—son avenir.) A. Goris.

July 5, No. 55, pp. 553-564

87 Pulmonary Lesions from Infection of Umbilicus. (Le poumon ombilical.) E. Bonnaire and G. Durante.
88 Tuberculosis and Pregnancy. E. Sergent.

81. **Achondroplasia.**—Bertolotti discusses the mechanism of the various forms of this type of dwarf growth, with eighteen illustrations.

82. **Roentgenoscopy of Unusually Low Liver.**—Letulle gives a dozen illustrations showing how the Roentgen rays have differentiated a congenital anomaly in the liver which has hitherto been classed with hepatoptosis but which in reality is nothing of the kind. The trouble is a complex malformation of the liver and adjoining parts of the intestine.

Revue Pratique d'Obstétrique et de Gynécologie, Paris

June, XXI, No. 6, pp. 161-188

89 The Transverse Suprapubic Incision in Gynecology. Rouffart and Potvin.
90 Arrest of Uncontrollable Vomiting of Pregnancy after Direct Transfusion of Blood from a Pregnant Woman. A. Viannay.

Semaine Médicale, Paris

July 2, XXXIII, No. 27, pp. 313-324

91 *Hemolytic Splenomegaly. (Splénomégalie hémolytique anhémopoïétique; le rôle de la rate dans l'hémolyse.) G. Banti.

91. **Anemia from Hemolysis.**—Banti devotes thirty columns to the report of his experimental research and clinical experience on hemolytic affections. His conclusion is that the agents of hemolysis can be divided into two great classes, the first being those which act directly and practically exclusively on the red corpuscles in the blood-stream with no appreciable active cooperation on the part of the organism. Distilled water belongs to this class. The other class of hemolytic agents act directly on the reds but have also the power of stimulating the hemolytic organs to an excessive destruction of blood-corpuscles. To this class belong serums, phenylhydrazin, etc. The organs on which this class act are the spleen most of all, and then to a far less extent on the liver, the lymph-nodes and the bone marrow. The spleen is above all the most sensitive and the most active in hemolysis. In clinical hemolytic splenomegaly four factors are at work: the agent causing hemolysis; the excessive hyperactivity in hemolysis of the spleen; the anemia (the consequence of the excessive hemolysis), and the (occasional) jaundice—also the consequence of the excessive hemolysis. If the hemolygenic agents are sufficiently potent to induce excessive hemolysis also in the secondary hemolytic organs, either splenectomy would be useless or it would induce merely simple improvement, transient or permanent. When not so potent, splenectomy removes the principal instrument at work in the hemolytic process, its hyperfunctioning being revealed by its enlargement and by the anemia resulting from the excessive hemolysis. The splenectomy does not remove the unknown primary hemolygenic agents, but it deprives them of their powerful ally, the spleen. They are then unable to do harm, and the splenectomy would thus be clinically equivalent to a complete cure. This conception of the mechanism of hemolysis throws light on other forms of anemia. It seems probable that certain forms of progressive pernicious anemia are due to some abnormal process of excessive hemolysis of splenic origin. If this proves true, it might be possible to arrest the progressive anemia by removal of the spleen, and thus bring the patient back to health. Banti reports in detail his research on dogs and rabbits and in three splenectomized subjects to determine the resisting powers of the corpuscles before and after splenectomy; also the hemoglobinemia in the general blood-stream and in the splenic vein; the progress of hemolysis and of the anemia in animals with normal spleens under the influence of various hemolytic substances; the same in the splenectomized; the hemolytic action of extracts of spleen,

and the morphologic changes in the size of organs in animals with and without a spleen under the influence of various hemolytic substances.

Berliner klinische Wochenschrift

June 30, L, No. 26, pp. 1193-1240

92 Classification of Disturbances in Speech. (Versuch einer synoptischen Gliederung der Sprachstörungen auf der Grundlage ihrer klinischen Symptome.) H. Gutzmann.
93 *Influence of Calcium Salts on Constitution and Health. R. Emmerich and O. Loew.
94 Dietetics in Cardiovascular Disease. H. Vaquez. Concluded in No. 27.
95 Alleged Reduction of Epinephrin-like Substances in the Serum in Psoriasis. R. Fischel and P. Parma.
96 Syphilis and Fever. F. Glaser.

93. **Influence of the Calcium Salts on Constitution and Health.**—Emmerich and Loew report extensive experimental research and clinical experiences based thereon which, they think, indicate that an adequate intake of calcium is one of the most important factors in the hygiene of the race. Other writers recently have confirmed the beneficial effects of calcium chlorid taken systematically over long periods. They regard the crystallized salt as more liable to be chemically pure, and order it dissolved in five parts distilled water, a teaspoonful of the mixture to be taken with each meal, diluted a little. (Thus, 0.5 gm. dry calcium chlorid three times a day.) Emmerich and Loew advise healthy persons to take this daily, as so much of our food is poor in calcium while in other foods there is a harmful excess of magnesia over calcium. In disease, especially when there is a loss of calcium in the urine, it may be better to give calcium lactate and, to increase the alkalinity of the blood, sodium tartrate with it. They order a mixture of equal parts and give 8 or 10 gm. daily, fractioned in three doses. In their experimental research mice thrived for months on daily doses of calcium chlorid twenty times larger than those proposed for human beings, and rabbits on doses a hundred times larger. As the human organism may be more sensitive than that of the lower animals, they accept as the limit clinical dose 0.04 gm. per kilogram. They report numbers of concrete instances in which patients gained in vitality and energy after taking calcium chlorid. The reports include cases of improvement in the general health and increase in weight in the course of from four to six weeks in northerners residing for a few months in the tropics. L. Reinhardt writes that the calcium chlorid given in this way, even to children, often had a wonderful effect. Especially with neurasthenia, nervous irritability and depression it seemed to transform the persons taking it, adding zest to life and work.

Deutsches Archiv für klinische Medizin, Leipsic

CXI, Nos. 1-2, pp. 1-204. Last indexed July 5, p. 70

97 Involvement of Spinal Cord in Variola. (Ueber Erkrankungen des Rückenmarkes bei Menschenpocken.) H. Eichhorst.
98 Case of Pneumopericardium. M. Ljungdahl.
99 Calcium Oxid in the Urine; Calcaruria. (Zur Lehre des Kalkstoffwechsels. III.) N. Voorhoeve.
100 The Secretion of the Pancreas in Man. O. Holsti.
101 Soda Edema. (Ueber Oedeme durch Natrium bicarbonicum.) H. v. Wyss.
102 The Cholesterin Content of the Blood in Internal Diseases. E. Henes (New York).
103 Analysis of Irregular Pulse. (Zur Analyse des unregelmässigen Pulses.) P. Reckzeh.
104 The Diastatic Ferment of the Urine. W. Neumann.
105 Estimation of Digesting Power of Gastric Juice as Aid in Diagnosis of Organic Stomach Disease. (Wert der Berechnung der peptischen Kraft des Magensaftes für die Diagnose der organischen Magenkrankheiten.) C. Singer.
106 Roentgenoscopy of Heart and Large Vessels. (Die röntgenanatomische Situsuntersuchung des Herzens und der grossen Gefässe. Zweck, Bedeutung und seitherige Leistungen dieses Verfahrens.) F. M. Groedel.

Deutsche medizinische Wochenschrift, Berlin

June 26, XXXIX, No. 26, pp. 1233-1288

107 *Radiotherapy of Cancer. (Behandlung des Krebses mit Röntgenlicht und Mesothorium.) B. Krönig and K. Gauss.
108 Living Spirochetes in the Brain in General Paralysis. (Nachweis von lebenden Spirochäten im Gehirn von Paralytikern.) E. Forster and E. Tomaszewski.
109 *Improved Bile Technic for Detection of Diphtheria Bacilli. (Verfahren zum Nachweis der Diphtheriebazillen und seine praktische Bedeutung.) W. v. Drigalski and Bierast.
110 Roentgenoscopy of Gastric Motor Functioning. (Einfluss von Zwischenmahlzeiten bei der röntgenologischen Prüfung der Magenmotilität.) M. Lüdin.
111 *Air Embolism. (Arterielle Luftembolie.) F. Jessen.
112 *Technic for Artificial Pneumothorax. (Technik des künstlichen Pneumothorax.) F. Jessen.
113 Motor Aphasia as only Indirect Consequence of Traumatic Injury of the Skull. M. Többen.
114 Another Case of Complete Recovery from Cancer of the Uterus after Exploratory Curetting. P. Prym.
115 Varicella in Adults Diagnosed as Syphilis; Six Cases. L. Lilienthal.
116 Alleged New Infection with Syphilis after Salvarsan Treatment Merely a Superinfection. C. Stern.
117 Tincture of Iodin in Sterilization of the Skin. (Kritische Bemerkungen über den Wert der Grossichschen Methode und ein Beitrag zur Vereinfachung unserer Desinfektionsmethoden.) W. Merkens.
118 The Science of Infant Feeding. (Zur Technik der Ernährung und Ernährungstherapie im Säuglingsalter.) S. Engel.

107. **Radiotherapy of Cancer.**—Krönig and Gauss describe their technic—the Freiburg method as it is called—with which radiotherapy seems to have entered on a new era, and the results as they have applied the new method in 146 cancer cases. The main points of difference from the old technic are the use of the pure gamma rays, carefully filtered through aluminum 3 mm. thick; great increase of the dosage to obtain summation of relatively small single deep doses by the cross-fire method, the tube not over 20 cm. distant; determination of the optimal time limit, and certain precautionary measures to ward off local injury. As the method has only recently been worked out, the longest period of freedom from recurrence to date is sixteen months. They compare the primary operative mortality and the absolute success as reported from a number of large clinics with cancer in fourteen different localizations, the composite figures showing that the outcome of surgical measures in some of them is far from encouraging even at the best. With cancer of the breast, for instance, the operative mortality is 4 per cent., the absolute cures only 18 per cent.; with cancer of the vagina, the operative mortality is 30 per cent.; absolute cures 4 per cent. On these figures they base their advice to apply radiotherapy even when the cancer can be readily excised. This is not a loss of precious time as was formerly maintained; it has frequently rendered inoperable cancer operable, and it is logical to assume that conditions in the operable cases will be improved in proportion. They make a practice of applying the radiotherapy by their new intensive dosage technic for one to three weeks to cancers accessible to sight and touch; if this does not succeed in curing the cancer, the operation can follow at once and is still early enough. If the cancer is operable but not accessible to inspection by touch and sight, the radical operation can be done at once if the statistics show that in the location in question cancer offers a favorable percentage of cures. If this is not the case, radiotherapy may be applied even then. If the cancer is inoperable, the intensive radiotherapy should be applied without delay, supplemented by other methods of treatment. After the operation they insist that in every case there should be systematic prophylactic radiotherapy. This alone seems to ward off recurrence, especially in cases in which the cancer has healed under the exposures alone. Unless this is done systematically as a routine procedure, radiotherapy is liable to be followed by the same disappointing results as are recorded for surgical measures.

109. **Improved Technic for Diagnosis of Diphtheria.**—Drigalski and Bierast state that the diphtheria bacilli can be shown up much better and with greater precision if a little beef bile is added to the Loeffler grape sugar-bouillon serum. The proportion is 0.87 parts grape sugar-bouillon and 0.13 parts sterilized beef gall to 3 parts beef serum. These proportions can be obtained most readily with 600 c.c. beef serum; 174 gm. grape sugar-bouillon and 26 c.c. beef gall. In comparative tests of this and the ordinary Loeffler plate, positive findings were obtained in eighty-one cases with both and in seventeen cases with the bile plate alone.

111-112. **Air Embolism and the Technic for Pneumothorax.**—Jessen reports an experience which confirms Brauer's statement that embolism may occur from air getting into a pulmonary vein without coming directly from the exterior. It is immaterial whether the embolism is caused by oxygen, nitrogen or air, and it is probable that certain cases published as pleural epilepsy were in fact cases of air embolism. Jessen's patient was a man of 30 requiring resection of the ribs over a cavity in the lung. An anesthetic was injected for local anesthesia and the tip of the syringe must have injured some vessel in or near the cavity. The vessel must have lost its elasticity and been unable to slide out of the way; no fluid had been injected but the air in the cavity of the lung entered the injured vein, with fatal collapse. Zink has reported a similar case, nitrogen from an artificial pneumothorax getting into a vessel in the chest wall. Sundberg also reported last December three cases of gas embolism of the same kind. All this experience testifies anew, Jessen declares, to the importance of preferring a smooth incision rather than the puncture technic for artificial pneumothorax.

Deutsche Zeitschrift für Chirurgie, Leipsic

Juar, CXXII, Nos. 5-6, pp. 359-596

119 *Histologic Findings in Gastric Mucosa with Gastric Ulcer and Cancer. H. Heyrovsky.

120 *Improved Technic for Testing Stomach Functioning. (Zur funktionellen Diagnostik der Magenkrankheiten mittels der Methode nach Sahli.) J. Znojemsky.

121 *Plaster Dressing and Extension Clamps in Ambulatory Treatment of Fractures. (Die ambulante Behandlung von Knochenbrüchen mit Gipsverbanden und Distraktionsklammern.) P. T. L. Hackenbruch.

122 *Congenital Defect of the Fibula. (Zur Therapie des kongenitalen Fibuladefektes, zugleich ein Beitrag zur Kenntniss der Epiphysenoperationen.) F. A. Hesse.

123 *Restoration of Vagina. (Ueber plastischen Ersatz der Vagina bei angeborenem Defekt derselben.) P. Albrecht.

124 Suture of Ruptured Inferior Vena Cava. (Ruptur der Vena cava inferior durch Ueberfahrung. Naht der Vene.) V. Schmieden.

119. **Changes in the Gastric Mucosa with Ulcer and Cancer.**—Heyrovsky has made a careful histologic examination of the gastric mucosa in the operative cases of stomach trouble in Hochenegg's service, and states that histologic findings are of great practical value, both for prognosis and as a guide for the diet after an operation on the stomach. He found evidences of gastritis in 51.5 per cent. of the cases of gastric ulcer; in 42.9 per cent. of the cases of duodenal ulcer; in 66.6 per cent. of the gastric cancer cases and in 78.5 per cent. of the cases of gastric cancer without a previous ulcer. The pathologic changes in the mucosa were about the same with all these, differing only in degree. No concordance could be found between the histologic picture presented by the mucosa of the fundus and the behavior of the stomach secretion. There was nothing characteristic discovered in the fundus glands indicating either hypersecretion or hyperacidity. With gastric ulcer, follicular erosions were frequently encountered. The gastric ulcer patients who had signs of gastritis suffered from stomach disturbances after the gastro-enterostomy in greater numbers than was the case with patients with gastric ulcer without gastritis.

120. **Diagnosis of Stomach Functioning.**—Znojemsky has been making a special study of Sahli's method of testing stomach functioning by means of a flour soup with considerable fat. This technic permits insight into the motor, the secretory and the acid functioning of the stomach all at once. He has improved the original formula for the soup to make it a very fine emulsion, and he here reports the application of the test and summarizes quite a number of cases from the various groups of gastric cancer, ulcer and pylorospasm, as well as twenty-five cases of gall-bladder disease and fifteen of wandering kidney out of his total of 600 cases of these different affections. The findings confirm the reliability and importance of the method, especially in cases with uncertain palpation findings. He found that considerable reduction of the motor and secretory functioning and acidity, when lactic acid is present, are signs of cancer at the pylorus. Gastric cancer is rendered probable by reduction in the secretion and acidity with normal motor functioning and the presence of lactic acid. When the motor functioning is reduced and the secretory functioning somewhat reduced, as also the acidity, but no lactic acid is found, the presumption should be carcinoma of the pylorus developing in an ulcer. The same findings with normal motor functioning speak for gastric cancer elsewhere developing on an ulcer. An ulcer in the pylorus region is generally accompanied by reduced motor functioning, normal or reduced secretion and hyperacidity. A gastric ulcer, generally speaking, is accompanied by normal motor functioning, normal or reduced secretion and hyperacidity. Reduced motor functioning with normal secretion and normal acidity testifies to gastroptosis. Normal or reduced motor functioning, with hypersecretion but nearly normal acidity speak for duodenal ulcer or an ulcer behind the pylorus. Reduced motility, secretion and acidity are almost always characteristic of gall-stone disease and wandering kidney. All these various types of gastric functioning were found practically constant in the 700 patients to whom the functional test has been applied in the course of the last seven years.

Sahli avoided the usual drawbacks of test meals by using a homogeneous mixture of fat. This permits comparison of the amount of fat left in the stomach after a given period as the suspension used is not absorbed in the stomach. (The method was described in THE JOURNAL, 1902, xxxviii, 1480, Abstr. 88.) The great objection to the method is that the butter does not form a true emulsion in the flour soup, and is unevenly distributed through it. These drawbacks have been obviated by Znojemsky by using almond oil instead of butter. This can be obtained chemically pure and keeps a long time; the emulsion can be made with it cold and the particles of fat are much smaller and remain evenly distributed through the suspension. He mixes 25 gm. almond oil and 10 gm. gum arabic with 7 gm. distilled water until thoroughly emulsified. Then more water is added to bring the amount to 250 gm., and the vessel is set aside for an hour. Then 200 gm. of the emulsion is drawn off from below, leaving the upper layer untouched. The flour is prepared by stirring 20 gm. of wheat flour in 200 gm. water and allowing it to boil up once, constantly stirring. When thoroughly cold, the almond oil suspension and the cooked flour are shaken up thoroughly together. The emulsion thus obtained can be filtered through linen. To make it more palatable, he adds 25 gm. of syrup of raspberry. The determination of the fat in the stomach content by the butyrometer according to von Gerber is extremely simple, he says, and never fails. He devotes seventy pages to detailed reports of the typical findings and reiterates their diagnostic importance for the correct topical and pathologic diagnosis of surgical stomach affections, especially those with dubious palpation findings.

121. **Treatment of Fractures with Extension in Walking Plaster Cast.**—The illustrations show the advantages of Hackenbruch's device for ambulatory extension. He cuts the plaster cast across in the middle and pushes the halves apart by a metal clamp built into the plaster cast. It bridges the gap and widens it as a central nut is turned on a screw thread which widens the space between the two ends. A ball-bearing joint permits the traction to be applied in various directions.

122. **Congenital Defect in the Fibula.**—Hesse devotes nearly a hundred pages to a study of the seventy-six cases he has found on record in which various measures were applied to substitute the missing bone. He also describes in detail the case of a boy crippled from lack of nearly the entire fibula. His experimental research sustains the clinical observation that it is possible to slit lengthwise a long bone in the region of the epiphyseal cartilage without interfering materially with the growth afterward. In the case described the boy could use his sole normally, the ankle was ankylosed but the tibia was stout and serviceable although the leg was not much more than half the length of its mate. There was no reason for operating and the child was fitted with a splint device with artificial foot which permits what amounts to a normal gait.

123. **Restoration of Vagina.**—Albrecht describes his experiences in three cases in which he made a new vagina out of the sigmoid flexure drawn down into a passage dug out for it. The access to the bowel was by the sacrum. This part of the bowel is stouter and stronger than the small intestine, which has generally been used in such operations. His success apparently confirms the advantages of the method.

Medizinische Klinik, Berlin

June 29, IX, No. 26, pp. 1023-1064 and Supplement

125 *Treatment of Recent Wounds and Severe Burns. (Behandlung frischer Wunden und schwerer Verbrennungen.) G. Schöne.
126 Scientific Bases for Hydrotherapy. A. Strasser.
127 Fracture of Fifth Lumbar Vertebra. (Kompressionsfraktur des fünften Lendenwirbels.) M. Lewandowsky.
128 Tests of Kidney Functioning. (Ueber Funktionsprüfungen der Nieren und ihre Bedeutung für die Therapie.) M. Roth.
129 *Differential Atmospheric Pressure in Treatment of Heart Disease. (Druckänderung der Lungenluft nach Albrecht als Behandlungsmethode bei Herzkrankheiten.) F. Hapke.
130 Congenital Backward Dislocation of the Knee. (Zur Kenntnis der angeborenen Luxationen im Kniegelenke nach hinten.) J. Lazarraga.
131 Carbohydrate Diet in Diabetes. R. Roubitschek and O. Gaupp.
132 *Death after Lumbar Puncture. W. Reusch.
133 *Spasmophilia in Children. (Die Krämpfe der kleinen Kinder.) O. Thorspecken.

125. **Treatment of Burns and Fresh Wounds.**—Schöne comments on the divergence of opinions in regard to treatment of fresh wounds and burns, but states that the results of experiments, like those of Friedrich, indicate the proper bases for treatment. Friedrich showed that it makes a vast difference whether a wound is infected with bacteria in pure cultures or whose virulence had been enhanced by conditions such as tropical heat, or whether the wound had been infected with ordinary dirt. The experiments demonstrated that an incubation period of six to eight hours occurs before the germs are taken up into the general circulation. Radical extirpation into sound tissue in time can thus remove the source of trouble. But this excision must be done in such a way as to combine with it the principle of aseptic sparing of the tissues. The technic must be thorough and clean, the cutting done with smooth, sharp instruments, avoiding any boring and pulling, and thus leaving the simplest possible conditions in the wound.

The two great principles of treatment of wounds, the aseptic refraining from meddling and the radical excision into sound tissue are not conflicting measures but can be combined. The aseptic sparing of the wound is the principle to be applied in the majority of firearm wounds with small projectiles and many cases of compound fractures. On the other hand, extensive crushing injuries of soft parts and bones, dangerously soiled, do better when the injured portions have been cut out. He knows of no other means of treating fresh accidental wounds which can compare in reliability with treatment on these principles.

Burns must be viewed from another standpoint, as the injury is from absorption of the toxic products generated in the burned tissues, possibly with the cooperation of the adjacent living tissues. He thinks that infection also plays a more important part in burns than has hitherto been admitted. He has seen many persons die from burns with symptoms indicating sepsis, but aseptic intoxication is a still more potent factor. An experimental burn otherwise fatal may prove harmless and the animal recover if the burned part of the skin is cut out within a few hours. If this patch of burned skin is transplanted on a second, healthy animal, it dies as if it had been the victim of the burn in the first place. These experiments explain also the tardy deaths after burns when all seems to be doing well. Tschmarke reasoned from these premises that the burned area should be rendered sterile and the burned tissues removed. His principles have not been followed by many surgeons as they dislike to attack the burned area in this way, but the progress of science has confirmed the soundness of his premises. With a burn of the third degree the burned pieces of the skin should be removed under aseptic conditions; with a burn of the second degree it is an easy matter to remove a large part of the burned epidermis by vigorous scrubbing, and thus to prevent its decay and the absorption of toxins. Schöne has applied the method in a large number of cases of extensive burns of the second and third degree and has been delighted with the results. In several cases of burns of the second degree involving the whole of the face, both arms, chest and part of the legs, the burned area, under slight ether anesthesia, was vigorously scrubbed with hot soapy water and a brush, thus removing the entire burned epidermis. The area was then washed with 60 per cent. alcohol and then smooth layers of gauze were fitted over the parts with cotton dressings outside. During the first two weeks only the outer layers of gauze were changed; during the next week the inner layer of gauze dropped off of itself and the primary healing beneath was found absolutely ideal. Even in cases of burns of the third degree it was found possible to restrict the suppuration by prevention of severe infection and thus to save many islands of epithelium which otherwise would have been lost under the influence of infection. The entire course was in these cases unusually mild. The only adjuvant measure applied was subcutaneous infusion of saline to counteract the loss of fluid in the profuse secretion. He admits that the method should be applied with caution. In one case it seemed as if the shock of this vigorous sterilization had hastened the end, inevitable from the severity of the burn. It is possible, Schöne remarks, that the aim might be reached in some gentler way, but tincture of iodin, passive hyperemia, serotherapy and measures to enhance the general resisting powers of the organism, although promising, cannot be relied on to accomplish the same.

129. **Differential Atmospheric Pressure in Treatment of Heart Disease.**—Hapke reports experiences with Albrecht's method of having the patient breathe rarefied air, then ordinary air and then compressed air, taking a few breaths in each in turn. The aim is to imitate the natural mechanical dynamic influencing of the lesser circulation by the respiration. The results seem to speak for a favorable action from the method, systematic repetition of the sittings promoting better conditions in the circulation, especially in the coronaries.

132. **Death after Lumbar Puncture in Uremia.**—The patient was a woman of 30 with severe headache and vomiting for eight weeks and signs of subacute parenchymatous nephritis. The symptoms subsided in a month under ordinary measures, all except the headache. To relieve this, lumbar puncture was done. The pressure was 190 mm. water; and after the withdrawal of 13 c.c. of cerebrospinal fluid, the pressure dropped to 110 mm. and the needle was removed. The headache was at first somewhat better but four hours later the woman died suddenly and a fresh hemorrhage was found in the left internal capsule, evidently from rupture of a degenerated cerebral vessel from the change in pressure.

133. **Spasmophilia.**—Thorspecken remarks that this constitutional anomaly is manifested in a measurable electric and mechanical excessive irritability of the nervous system which causes a predisposition to certain partial and general tonic and clonic spasms, contractions and convulsions. It is a favorable feature that the excessive electric excitability of the motor nerves is not only the most important but also the most constant symptom of spasmophilia, and reveals the pathologic condition in the mildest, even the latent forms, thus pointing the way to the proper measures. It is as important for differentiation as sugar in the urine of the diabetic, and like this may be the only objective sign of trouble. The mechanical irritability of the nerve roots, the Chvostek sign and the Trousseau, are not so constant. It is probable that cases of sudden death in apparently healthy children are due to sudden spasm of the larynx or of the nerves controlling the heart. Spasms have been observed not only in striated muscle but also in the sphincters and the smooth musculature innervated by the sympathetic system. The season seems to have an influence on the spasms. In Escherich's 246 cases only seven were in the four months, July to October. The influence of the diet is preeminent, especially the injurious influence of cow's milk. The fact that inadequate assimilation of lime is an important factor in the development of both rachitis and spasmophilia explains why the two are so

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often associated. Unusual filling of the stomach is a frequent cause for the spasms, and in the cases of sudden death of children from arrested heart action the last meal had been unusually copious in nearly every case on record. On the other hand, dilatation of the stomach does not seem to have any influence, judging from roentgenoscopy of young children with manifest spasmophilia. Treatment must be mainly dietetic, changing to breast milk or tea alone. With children over a year, milk can be dropped for a week without harm. In all cases of spasmophilia cod liver oil or phosphorus-cod liver oil is indicated. Under this alone in many cases, without any change in the diet, the symptoms of spasmophilia will disappear. Phosphorus with other oils is ineffectual. The phosphorus must be fresh and renewed every two weeks at least, as it has no action if it is oxidized. Only elementary phosphorus has any influence in spasmophilia or rachitis. All the other preparations of phosphorus, in which it appears as phosphoric acid or in organic combinations, are ineffectual. It is still a question whether calcium salts by the mouth have any influence on spasmophilia, although some recent reports mention success from large doses of calcium chlorid (3 to 6 gm. per day), but further experience is necessary. Nothing is to be expected from bromids or parathyroid treatment although the latter may be successful in postoperative and experimental tetany. Chloral is very useful as a symptomatic means to arrest the convulsion. It has the advantage over chloroform that it can be left in intelligent lay hands. The proper dosage, he says, is about 0.5 gm. in an enema, which dose young children will bear without harm; it leads to subsidence of the spasm in a few minutes and sleep for several hours. The same dose can be repeated the same day or even for several days until the causal treatment makes its effects felt. The general prophylaxis of spasmophilia is mainly a question of breast-nursing. Children with a predisposition should be kept with special care from excitements and from copious meals, and they should be kept in the open air, especially in winter, and be protected against infections, particularly against whooping-cough.

Münchener medizinische Wochenschrift

July 1, LX, No. 26, pp. 1317-1372

134 *Metal Salts Technic for Differentiation of Bacteria. (Die Untersuchung verwandter Bakterienarten durch die Ausfällung ihres Eiweisses mittels konzentrierter Salzlösungen.) H. Liefmann.

135 Serodiagnosis. (Serologische Untersuchungen mit Hilfe des Abderhaldenschen Dialyseverfahrens bei Gesunden und Kranken. Studien über die Spezifität der Abwehrfermente.) A. E. Lampé and L. Papazolu. (Experimentelle Untersuchungen über die Spezifität der proteolytischen Schutzfermente—Abderhalden.) E. Frank and F. Rosenthal. (Zur Serumreaktion nach Abderhalden.) Lichtenstein.

136 *Recovery from Tuberculous Meningitis; Two Cases. V. Reichmann and F. Rauch.

137 Technic for the Wassermann Test. (Zur Technik der Blutentnahme für die Wassermannsche Reaktion.) P. Mulzer.

138 *Treatment of Spondylitic Paralysis. P. Bade.

139 *Traumatic Thrombosis of the Inferior Vena Cava in Relation to Life Insurance. F. P. Weber.

140 *Reduction of Hernia in Infants. (Ein einfaches Hilfsmittel bei der Reposition ausgetretener Hernien der Säuglinge.) A. Nussbaum.

141 *Complications Following Injection of Pituitrin. (Zur Kasuistik der Pituitrinwirkung.) Grumann.

134. **Differentiation of Bacteria with Magnesium Sulphate.**—Liefmann has been applying to the differentiation of bacteria the principle of Nonne's reaction, namely, the opalescence, agglutination or precipitation which follows when the fluid under examination is mixed with an equal amount of a concentrated solution of a salt of the light metals, especially ammonium or magnesium sulphate. He tabulates the findings in dozens of specimens of various bacteria; they show actually a specific response, sifting out the different species. Typhoid bacilli give no response but it is almost constant with paratyphoid bacilli and with true cholera germs. A twenty-four hour agar culture of the bacteria is suspended in 3 c.c. distilled water and then filtered or centrifugated to clear it of the larger particles. The magnesium sulphate is in saturated solution in distilled water, which requires twenty-four hours to make. It is well shaken up before using and the test tubes are filled to 1 c.c. each, over 0.1 c.c. of the culture suspension. He thinks that the reactions thus obtained with the bacteria suggest the possibility that characteristic findings may be obtained with simple physical means which will prove as instructive as with the serum of prepared animals.

136. **Recovery from Tuberculous Meningitis.**—Reichmann and Rauch report two cases of recovery from unmistakable meningitis with tubercle bacilli in the cerebrospinal fluid; one patient was a child less than 2 years old, the other a robust young man. Both were treated by lumbar puncture and the application of a Bier constricting band. They cite from the literature eighteen other cases of recovery, more than half dating from the last five years. Their child patient had the lumbar puncture done five times, withdrawing a total of 55 c.c. of fluid, and the constricting band was not applied very tightly. The benefit from the second puncture was striking. The fluid was under 500 mm. water pressure and it kept at a high point in spite of the progressive improvement, being still 300 mm. at the time of the last puncture, twenty-three days after the first; the first symptoms had been noticed three months before.

138. **Non-Operative Treatment of Spondylitic Paralysis.**—Bade has been delighted with his success in curing paralysis of spondylitic origin in eight cases during the last four years, refractory to months of systematic treatment by other means. His aim was to get the patient up out of bed and train his muscles to functionate anew, without any operation. The child was placed in a plaster cast from head to toes, suspended to allow the toes to touch the floor. The cast was then removed and a model made from it on which splints and other appliances were fitted, with elastic traction to overcome the contraction of the muscles. The paralyzed patient stands immovable, like a doll, in this harness, but he is placed in a walking frame so that he cannot fall, and he soon learns to utilize the traces of muscular function still possible. In a week or up to four or six weeks his patients were able to move forward a little by means of the psoas iliacus; this was the first step toward complete recovery. Vigorous massage and gymnastic treatment were further factors in the cure. For this the patient is twice a day freed from his harness and the paralyzed muscles are massaged and the joints passively exercised. Within two months or a little more the splint for the trunk can be discarded. The paralysis of the legs persists longest, and it may be difficult to move them even after nine months, but in time all his patients were completely cured. He ascribes the success to the better circulation in the spinal cord, the fact that the pus of an abscess or edema fluid can work its way downward better than when the patient lies on his back, and thus no one point suffers so much. Another factor is the elimination of the irritation sent to the spinal cord by the abnormal contracture of the muscle. As the splints reduce the contracture this irritation ceases. Equally important perhaps is the effect on the spirits of the patient to be up and about instead of fastened immovably to his bed. Bade thinks that the Stoffel operation attacks merely the symptoms and does not remove the cause, while the Förster operation and MacEwen's laminectomy are too dangerous if less serious measures are at our disposal.

139. **Traumatic Thrombosis in Relation to Life Insurance.**—Weber concludes from three cases which he has encountered that traumatic thrombosis of the inferior vena cava is not incompatible with long survival. Collateral circulation soon develops. (Compare also case reported in THE JOURNAL, 1913, lx, 1878.)

140. **Aid in Reduction of Hernia in Infants.**—The child's incessant screaming and consequent stiffening of the abdominal wall nullified all attempts to reduce a large inguinal hernia in a three-months' infant. Nussbaum then blew sharply into the infant's face and the screaming ceased at once, the child struggling, but not screaming, and the abdominal wall was soft. Each time it started to scream, this was arrested by blowing suddenly and sharply in its face, and

Nussbaum thinks that this simple measure may be found a useful aid in abdominal palpation of young infants.

141. **Serious Complication Following Use of Pituitrin.**—A woman of 32 was in labor with her first child. The cervix was rigid, the membranes ruptured, the labor pains weak and far between, the os dilated about the size of a silver quarter. The third day an injection of pituitrin was given, two hours later a second injection and the cervix was slit. Five hours later a third and two hours later a fourth injection of pituitrin was given. They were followed in half an hour by labor contractions so excessive that they kept up practically continuous for two hours, with spasmodic closure of the cervix. Finally pain in the sacral region became intense, requiring morphin; the temperature rose and also the pulse, and a mixture of amniotic fluid and stool escaped from the cervix. As a consequence of the two hours' pressure of the fetal skull on the sacrum from the intense contraction of the uterus, under the action of the pituitrin, the tissues between had been destroyed and a fistula was formed between the rectum and the cervix. The child was delivered with forceps and died the seventh day from sepsis.

Petersburger medizinische Zeitschrift, St. Petersburg

June 28, XXXVIII, No. 12, pp. 140-149

142 Myoma of the Uterus and Pregnancy. (Ueber Uterusmyom und Schwangerschaft.) A. v. Schrenck.

Therapie der Gegenwart, Berlin

July, LIV, No. 7, pp. 289-336

143 Disease of the Stomach. (Fortschritte in der Behandlung der Magenkrankheiten.) G. Klemperer. To be continued.
144 Exophthalmic Goiter. (Diagnostische und therapeutische Bemerkungen zur Basedowschen Krankheit; 100 Fällen.) J. Hallervorden. To be continued.
145 *Spontaneous Rupture of the Eyeball. W. Dolganoff.
146 Radium Pessary for Hemorrhoids. H. Schwieder.

145. **Spontaneous Rupture of the Eyeball.**—Dolganoff has encountered five cases which evidently belong in the category of spontaneous rupture of the eyeball. Analysis of this material, however, confirms the assumption that spontaneous rupture from within cannot occur. There must always be some external force, and study of the individual case will reveal the causes predisposing to the rupture.

Virchows Archiv, Berlin

May, CCXII, No. 2, pp. 161-320

147 Experimental Alimentary Atherosclerosis. W. Steinbiss. Commenced in No. 1.
148 Pathology of the Pancreas. H. Apolant.
149 Parenchymatous Cancer of the Liver. K. Yamagiwa.
150 Histology of Congenital Syphilis of Small Intestine, with Spirochetes. G. Warstat.
151 The Anatomic Changes in Experimental Mercuric Chlorid Poisoning in their Dependence on the Vascular and Nervous Systems. F. Weiler.
152 Deposits of Lipoids in Organs. (Ueber die Ablagerung von fettartigen Stoffen in den Organen.) N. W. Wesselkin.
153 Lipoid Nerve Cell Pigment and the Question of Age. M. Mühlmann.

Wiener klinische Wochenschrift, Vienna

June 26, XXVI, No. 26, pp. 1053-1100

154 *Early Diagnosis of Gastro-Intestinal Cancer. (Ueber Frühdiagnose der Karzinome des Verdauungskanals.) E. Schütz.
155 *Gangrene of the Extremities. H. Ehrlich and M. Maresch.
156 *Benzol in Leukemia. (Zur therapeutischen Verwendung des Benzols.) G. Kiralyfi.
157 Primary Cancer of the Lung; Nine Cases. J. v. Wiczkowski.
158 *Pseudotuberculous Ulcerations on Female Genitals. (Zur Klinik und Aetiologie der pseudotuberkulösen Geschwüre am weiblichen Genitale.) G. Scherber.
159 Melanosarcoma of the Ovary. J. Bondi.
160 Heliotherapy in Surgical Tuberculosis. A. Wittek.

154. **Early Diagnosis of Cancer.**—Schütz does not present anything actually new, perhaps, but he reiterates points which he declares cannot be emphasized too often as it is rare for cancer of the gastro-intestinal tract to develop with a long period of latency; there are generally some signs of disturbance which, if only heeded, would permit detection of the malignant disease in its first although not in its incipient stages. The public must be educated to apply for medical examination when these early vague signs appear, and the physician must make a practice of thorough examination in every case of not entirely acute gastro-intestinal disturbance, supplementing palpation, functional tests and endoscopy with roentgenoscopy. Among the further points which he emphasizes is the great diagnostic importance of examining for stenosis of the esophagus in every case of persisting vomiting or regurgitation soon after meals, not explained by some cause outside of the alimentary canal. A stiff catheter should be introduced first into the esophagus and when it meets with an obstruction a soft tube should be introduced in its place. This combination often reveals lesions not discoverable with either catheter alone; blood and tissue scraps may be found in the opening of the tube or catheter used. The distance from teeth to stomach varies in wide limits in different persons, so that the tube may have to be introduced for 45 cm. or more before it enters the stomach. An hour-glass stomach or cancerous contracted stomach may simulate stenosis of the pylorus, but roentgenoscopy will clear up the diagnosis. The absence of the "second sound of swallowing" is significant; also the fact that fat meat is swallowed more easily than lean. Even a large palpable tumor in the stomach does not necessarily contra-indicate operative measures; proper palpation and interpretation of the findings require skill which not all possess. The technic should be cultivated by practice on normal persons, so as to distinguish pathologic conditions when they are encountered, and the examination should be done with the patient in various positions. He has frequently had the experience that a contracted loop of bowel or the belly of the abdominal rectus has been taken by even experienced clinicians and specialists for a neoplasm. Schütz has never encountered lactic acid in the stomach content with a simple gastric ulcer, while cases which seemed to be merely ulcer but in which there was subnormal acidity and lactic acid was present always turned out to be cancer. On the other hand, even large tumors proved to be merely ulcers whenever hyperacidity was evident. Consequently he preaches that stenosis of the pylorus with lactic acid and no free hydrochloric acid should be treated as for malignant disease, as also the callous and penetrating ulcers which are so liable to turn into cancer, and which can be readily detected by roentgenoscopy. He states that he found achylia only in 3 per cent. of 830 patients with non-cancerous disease of the stomach, and he found a lack of free hydrochloric acid in only 7 per cent. of 1,000 cases of non-malignant disease of the stomach, while no free hydrochloric acid was found in 70 per cent. of 150 cancer patients. Others have reported even larger proportions. The absence of hemorrhage, evident or occult, does not exclude cancer. On suspicion of intestinal cancer, systematic palpation a few hours after taking a dose of a purgative mineral water often proves instructive from the accumulation of fluid above the obstruction in the gut under the action of the purgative. Schütz deplores the neglect of digital examination of the rectum as directly contributing to the fatalities from rectal cancer. We must realize, he emphasizes, that blood may come from hemorrhoids and yet there may be a cancer in the gut above; the discovery of bleeding hemorrhoids does not do away with the necessity for digital examination of the rectum when symptoms such as blood and mucus in the stools and tenesmus call for determination of their cause. Cancer is usually accompanied by hemorrhoids—far from their excluding malignant disease. Chronic diarrhea is also a frequently overlooked symptom of rectal cancer; it is not only one of the most frequently occurring but is also one of the earliest and sometimes for long the only or the most prominent symptom of malignant disease of the rectum. He encounters every year a number of such patients whose significant chronic diarrhea had been treated for months by all kinds of means for intestinal catarrh, no one of the physicians consulted taking the pains to make a digital examination of the rectum which would have revealed the cause of the diarrhea at once, alone or supplemented by rectoscopy. Many of these patients had taken courses at Carlsbad and other spas under medical supervision while their overlooked malignant disease was passing into the

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inoperable stage. Prompt proctoscopy has often revealed a cancer in its incipiency. In some cases the diagnosis was made possible only by finding blood-streaked scraps of feces in the opening at the tip of the proctoscope when nothing abnormal could be found in the rectum itself. Foges has recently reported a case in which a rectal polyp was found in cancerous degeneration in the center. In short, Schütz thinks it is up to the general practitioner to make such a systematic routine examination that no gastro-intestinal cancer causing the slightest signs or symptoms will ever escape his diagnosis.

155. **Gangrene of the Extremities.**—Ehrlich and Maresch review the experiences at von Eiselsberg's clinic in eighty-one cases of gangrene of the feet or hands. The list includes one from electric accident, two from puerperal embolism (with amputation of the thigh in one case); forty-four from arteriosclerosis and twenty-nine from diabetes. With arteriosclerosis there had generally been for years paresthesias, chilliness in the limb, rheumatic pains or intermittent limping with later cyanosis of the limb, toe ulcer dragging along without healing or flat-foot disturbances in the elderly. They emphasize the extreme importance of prophylactic measures in such cases, resting the limb, keeping it raised, avoiding all thermic or traumatic injury, and sparing the limb as much as possible. In one case all four extremities became involved in the course of ten years but the tendency to gangrene in the hands subsided under antiphlogistic measures and potassium internally. The patient, a man of 42, has been in good health during the three years since. He had previously had the toes of one foot and the other thigh amputated on account of gangrene. The experiences with senile gangrene confirm the general assumption that conservative amputation usually has to be followed by more extensive amputation later, and it is a serious matter to have the intervals between too short.

Two patients died of pneumonia of nine treated by amputation of the leg for arteriosclerotic gangrene and two among eighteen requiring amputation of the thigh (seven of both thighs). Another succumbed to sepsis not benefited by the amputation. The operations were done under light ether anesthesia or spinal anesthesia, the latter being given the preference in case of existing bronchitis. The results observed confirm the wisdom of waiting for demarcation in all forms of gangrene which are not due to a diffuse or progressing affection of the arterial system; namely, gangrene after accidents, burns or freezing in the young, unless some septic process compels earlier intervention. In case of arteriosclerosis, with good condition otherwise, the spontaneous sloughing off of the toes can be encouraged. The slight prospects of a permanent cure discourage operations on the foot itself. In case of defective demarcation, spreading of the process, infectious complications or unbearable pains, amputation is indicated which should always be in the thigh in case of senile gangrene. At an earlier age amputation may be done in the leg if the extent of the gangrene permits, if the pulse is palpable at least in the popliteal artery and the stump bleeds freely during the operation. The experiences with diabetes emphasize the necessity for amputation of the thigh if any operation on the limb is attempted. The indications thus differ with diabetes, as such patients bear after-operations badly and conservative operations should not be attempted unless the urine is free from sugar and there is no danger of acidosis. Amputation of the leg in ten diabetics was followed by the death of eight the stump became gangrenous in four and the thigh had to be amputated. The second operation was responsible for the fatality in these cases. In eleven other diabetics the thigh was amputated at once and only six died. A diabetic phlegmon of the hand on one patient healed after incision and enucleation of the finger. The stumps in the diabetics healed very slowly; dehiscence occurred in several cases even after two weeks' afebrile course. Only traces of granulation are evident and the tissues seem predisposed to secondary infection, manifesting itself either as an acute fatal phlegmon or a dragging, only slightly virulent suppuration, finally bringing on coma

156. **Benzol in Leukemia.**—Kiralyfi recalls that Koranyi was the first to call attention to the action of benzol in leukemia, and he here brings down to date the experiences with this method at Koranyi's clinic. He emphasizes that in future greater caution in the dosage is necessary, as it has been found that certain after-effects will have to be reckoned with. On this account he now advises to suspend the benzol before the leukocytes have dropped to the normal figure. When the figure has reached 25,000 or 20,000 the benzol should be dropped, or, better yet, it should be suspended as soon as the number of leukocytes starts to decline. Neumann has reported a case in which the leukocytes dropped under benzol from 56,000 to 5,000 and later to 200 but the patient's nose began to bleed and the hemorrhage became uncontrollable, the patient dying thirty-nine days after suspension of the benzol.

Kiralyfi had a similar experience with a girl of 18 with symptoms of leukemia for two years, and at the time of treatment 73,000 leukocytes, great enlargement of the spleen and temperature up to 40 C. (104 F.). As the patient could not take the benzol by the mouth, it was given in a rectal enema of 2 gm. benzol in 50 gm. olive oil three times a day. In a week the leukocytes dropped to 33,200 and by the sixteenth day to 5,000 while the spleen subsided in size, the temperature to normal and the patient felt well. The benzol was then suspended and the case was cited as a brilliant example of the curative action of benzol. The leukocytes continued to drop until they numbered 2,800; then epistaxis commenced and continued for seven days scarcely influenced by local measures and injection of gelatin or serum. With the decomposition of the blood behind the tampons fever developed, and the patient died as the heart action grew weaker, the twenty-second day after suspension of the benzol. The leukocytes then numbered only 460; no myelocytes could be found and there were only 3 per cent. myeloblasts. No other instance of such hemorrhage has been encountered at the clinic. The case teaches that benzol acts by the rectum as effectually as by the mouth, and also that the desired aim should be reached more gradually. Another case reported illustrates the aggravating influence of a pregnancy in the course of leukemia. The patient had been clinically cured by two courses of benzol treatment in about nine months. Then she became pregnant and at term the old leukemic symptoms returned in a more pronounced form.

Treatment with benzol has also been tried in other affections accompanied by enlargement of the glandular apparatus without pathologic increase in the numbers of the leukocytes, the pseudoleukemias, and also in polycythemia. The benzol proved far less effectual in simple granulomatous enlargement of the lymph-nodes than in the lymphocytic forms of pseudoleukemia. The enlarged nodes become reduced in size, just as under Roentgen-ray exposures but, the same as with these, the improvement proved only transitory. The benzol seems to have no action on the fever in this group of cases. In generalized lymphocytomatosis, true pseudoleukemia, we can count, he says, on an almost certain and perfect action of the benzol. He states that the accompanying nephritis is not only not aggravated by the benzol but materially improves under it, according to his experiences to date.

158. **Pseudotuberculous Ulcerations on Female Genitals.**—These ulcerations on the external organs of girls and women differ from syphilitic and other lesions by their acute inflammatory, superficial nature, the rapid development and extreme painfulness, and the shape of the ulceration. They respond readily to mild antiseptic measures, healing in ten or fourteen days, while they drag on indefinitely untreated. They seem to be due to mixed infection; in one little girl infected from a sister two years older the germs seemed to have become more virulent. When the ulcerations are mistaken for syphilitic lesions and local treatment is omitted, they continue a progressive course. In all the few cases known to date the patients were virgins. The ulcerations come on with or without high fever, numerous distinct, pin-head, greyish-white or yellow nodules developing into ulcerations with or without a pseudodiphtheritic false membrane. The

ulcerations may become confluent; they are shallow, sharply circumscribed, with generally regular edges and uneven ground. They are further distinguished by being so extremely painful to the touch. In one case the inguinal lymph-nodes were swollen. The affection reaches its height in two or three days; each ulceration then persists indefinitely unless given mild antiseptic treatment. This is Scherber's second published report on this subject.

Zentralblatt für Chirurgie, Leipsic

July 5, XL, No. 27, pp. 1065-1096

161 *Operation for Cancer of the Esophagus. W. Denck.
162 Removal versus Exclusion of Appendix. (Appendektomie oder Ausschaltung?) R. v. Rauchenblichler.
163 *Test for Blood-Supply with Gangrene of the Foot. (Zur Bestimmung der Ernährungsgrenze bei Gangraena pedis.) W. Sandrock.

161. **Resection of Cancer of the Esophagus.**—Denk describes a method of resecting the esophagus for cancer below the bifurcation of the trachea. Through an incision 20 cm. long parallel to the left costal arch the esophagus can be loosened with the finger up to the bifurcation without bleeding and without injuring the pleura. He supplements the finger with a little instrument like a vein stripper. If the cancer cannot be separated out without cutting, he concludes with a gastrostomy. If the cancer proves removable, he then exposes the esophagus in the neck and mobilizes the upper portion in the same way. Then with both hands, one working from below and one from above, it is possible to detach the esophagus all around without the least difficulty. He then clamps it above the cardia and applies on each side two 1 cm. wide metal clips, like Cushing's aneurysm clamps, and after applying a clamp on the cardia beyond, the esophagus is cut across close below the clamps. A ligature can be applied above the clamps to be a further protection. The entire esophagus is then, with its cancer, drawn out through the incision in the neck and the cancerous segment excised, the central stump drawn into the subcutaneous tissue in the front of the chest and the open end sutured to the skin. The operation concludes with a gastrostomy; or this can be done two or three weeks before the radical operation. After healing he connects the stump of the esophagus with the gastrostomy tube to restore the functioning of the gullet. The operation has not yet been applied in the clinic but its feasibility has been abundantly established on the cadaver and on animals. The advantage of the method is in the avoidance of any injury of the pleura and in the impossibility of infection of the mediastinum with the contents of the esophagus, while the dangers are no greater than with the transpleural methods.

163. **Gangrene of the Foot.**—Sandrock reports an extremely simple measure with which it is possible to determine with precision the limit of the available blood-supply. He discovered it accidentally as he was doing an amputation. The field had been sterilized by rubbing with ether-alcohol more vigorously than usual. He noticed that the thigh had turned red under the rubbing but only down to a certain point on the leg where the reactive hyperemia stopped abruptly and below, although the parts had been rubbed equally vigorously, the leg was still absolutely pale. Other tests were applied, all showing the same limit of the blood-supply at this circular boundary. Since then he has applied the test in various cases of diabetic or vascular gangrene and always found that the diffuse redness of the well-nourished part of the limb stopped short at the limit of the defectively-nourished part. In all his experience when he amputated at this boundary line he has never had occasion to regret it. He controls the test by rubbing the patient's sound leg at the same time. The difference is marked.

Zentralblatt für Gynäkologie, Leipsic

July 5, XXXVII, No. 27, pp. 889-1028

164 Research on Embryonal Tissue. (Zum Studium der autolytischen und autoplastischen Vorgänge im embryonalen Gewebe.) F. Daels and C. Deleuze.
165 Kraurosis and Cancroid. R. Teuffel.
166 *Prophylaxis of Uterine Cancer. (Ein Mahnruf an die Gynäkologen.) L. M. Bossi

166. **Prophylaxis of Uterine Cancer.**—Bossi declares that trying to educate the public to apply for examination at the first sign of cancer is not prophylaxis; it is surgery. Gynecologists should aim to prevent the development of uterine cancer, and he thinks that his twenty-seven years of clinical experience sustain his contention that this is possible, namely, by curing up all chronic inflammations and by refraining from the abuse of heroic local applications. Epithelioma of the cervix does not develop if all chronic ulcerative processes there are systematically excised. In the same way, curetting hyperplastic formations in the uterine mucosa will prevent malignant disease in the uterus later. In his experience with 7,000 cases in which he has performed these little operations on the vaginal portion of the uterus he has never had cancer develop later in any instance. His experience sustains the view that cancer is not of microbian but solely of histologic origin, and that in most cases it originates in lesions which in themselves are not malignant but which degenerate into cancer if they are not treated in time or if they are not treated correctly. The true prophylaxis of uterine cancer is therefore early systematic and persevering surgical treatment of benign affections of the cervix and uterine cavity.

Gazzetta degli Ospedali e delle Cliniche, Milan

July 1, XXXIV, No. 78, pp. 807-814

167 *Resection of Liver for Tumor. (Resezione dell'ala sinistra del fegato per cavernoma.) L. Z. Colleoni.
168 *Compulsory Declaration of Tuberculosis. (La denuncia obbligatoria della tubercolosi.) F. Maffi.

July 3, No. 79, pp. 815-822

169 Weiss' Permanganate Test for Urochromogen. L. Dozzi.

167. **Resection of the Liver.**—Colleoni was able to resect the left lobe of the liver for a large blood-vessel tumor, a cavernoma, with the smooth recovery of the patient, a woman of 54. The excised portion after draining out most of the blood weighed 570 gm. There was no special hemorrhage during the operation.

168. **Compulsory Declaration of Tuberculosis.**—Maffi thinks that the tuberculosis dispensaries answer all the purposes aimed at by compulsory declaration of the "open" cases of tuberculosis, and with far greater precision. He adds that compulsory declaration must eventually prove either a farce or savage brutality unless followed up by comprehensive care and support of all the tuberculous. "Let's begin with this," he says, "and come to the compulsory declaration later."

Policlinico, Rome

June 29, XX, No. 26, pp. 917-952

170 Adrenal Organotherapy in Epilepsy. (Opoterapia surrenomidollare ed epilessia.) T. Silvestri.

Hospitalstidende, Copenhagen

July 2, LVI, No. 27, pp. 745-768

171 *Carcinoma of the Prostate Simulating Lymphomatosis. C. Lundsgaard.

171. **Carcinoma of the Prostate Simulating Lymphomatosis.**—The patient presented apparently a typical case of lymphomatosis. Not only the clinical course but also the necropsy findings in the enormously enlarged lymph-nodes in the neck, chest, mesentery, etc., were apparently of lymphomatous nature. Microscopic examination alone revealed the structure of metastatic adenocarcinoma, and search for the primary cancer revealed it in the prostate. The patient was a farmer of about 70.

Norsk Magazin for Lægevidenskaben, Christiania

July, LXXIV, No. 7, pp. 881-1024

172 Leprosy as a Factor in Mental Disease. (Kan radesyken tillægges nogen betydning i vore sindslidelsers ætiologi?) J. Henrichs.
173 Physical Examination after Skating and Running Races. (Lægeundersøkelse ved Old Boys skøitekappløp.) H. Daae. (Undersøkelser av deltagerne i 50 km. løpet.) P. Torgersen.
174 Congenital Heart Disease; 15 cases. (Medfødte hjertefeil.) K. Motzfeldt.
175 From the Seat of War. (Krigskirurgiske demonstrationer.) S. Widerøe.

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